

**SPECIAL
ANNIVERSARY ISSUE**

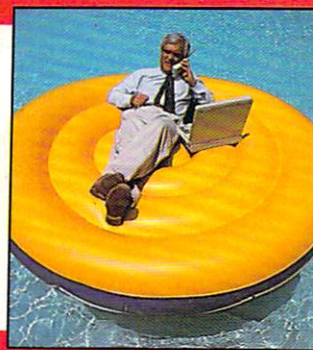
Alvin Toffler: Future Workstyles • 17 Work-at-Home Success Stories
90-Plus Programs for Running Your Business • How to Sell Yourself

HomeOffice

COMPUTING

September 1988 \$2.95
Canadian \$3.25

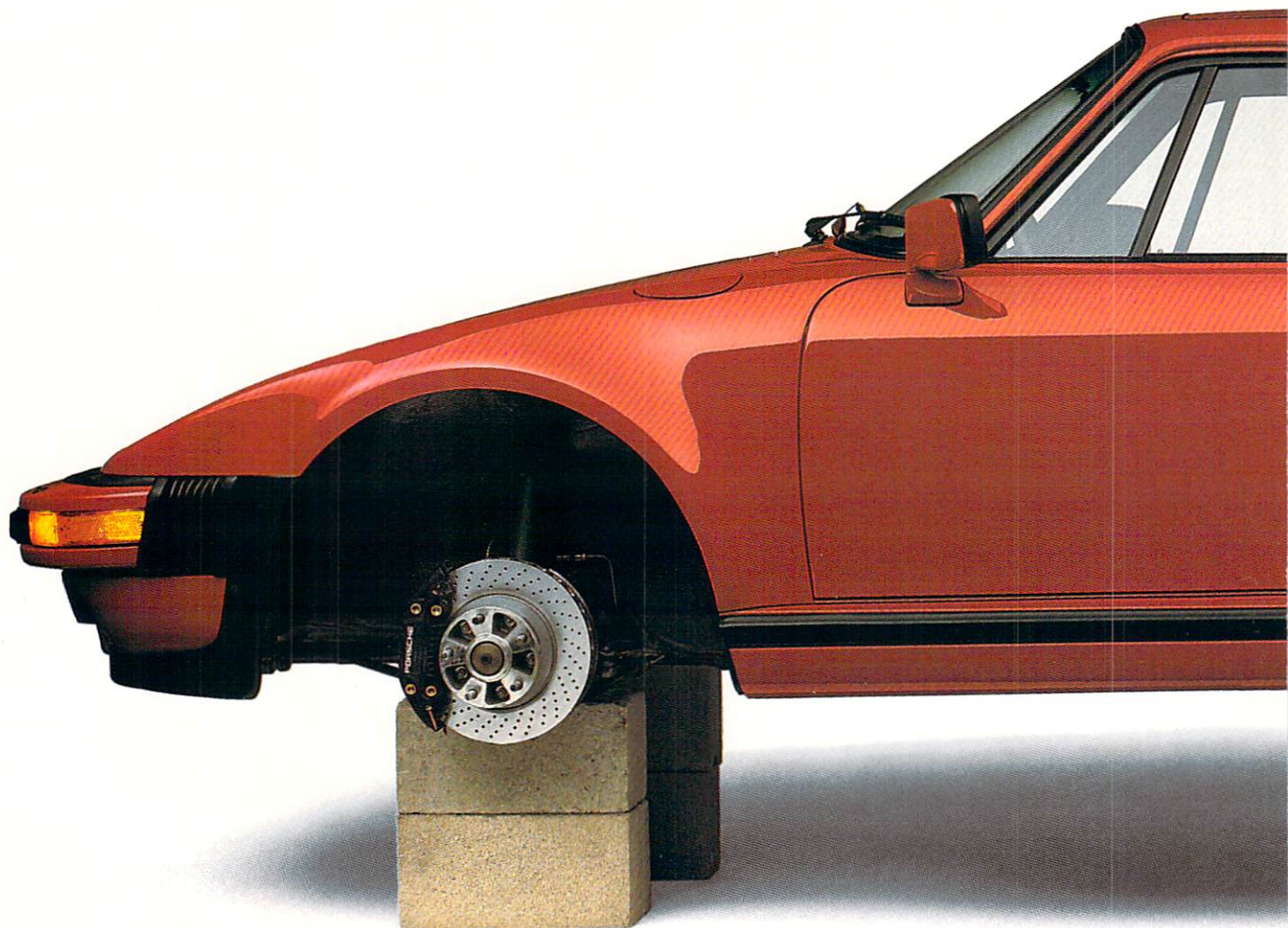
The New American Dream: Working On Your Own



17
WHO LIVE
THE
DREAM



Some Apple II owners still



It's like listening to Beethoven's 9th on a transistor radio. Or watching the Super Bowl on a five-inch screen.

Sure, your Apple II probably seems great just the way it is. But until you boot AppleWorks® 2.0, you won't really know what it's capable of doing.

AppleWorks combines three of the most popular applications in one powerful, easy-to-use package: a sophisticated word processor for swiftly creating dynamic marketing plans or compelling letters home to mom. A spreadsheet for compiling

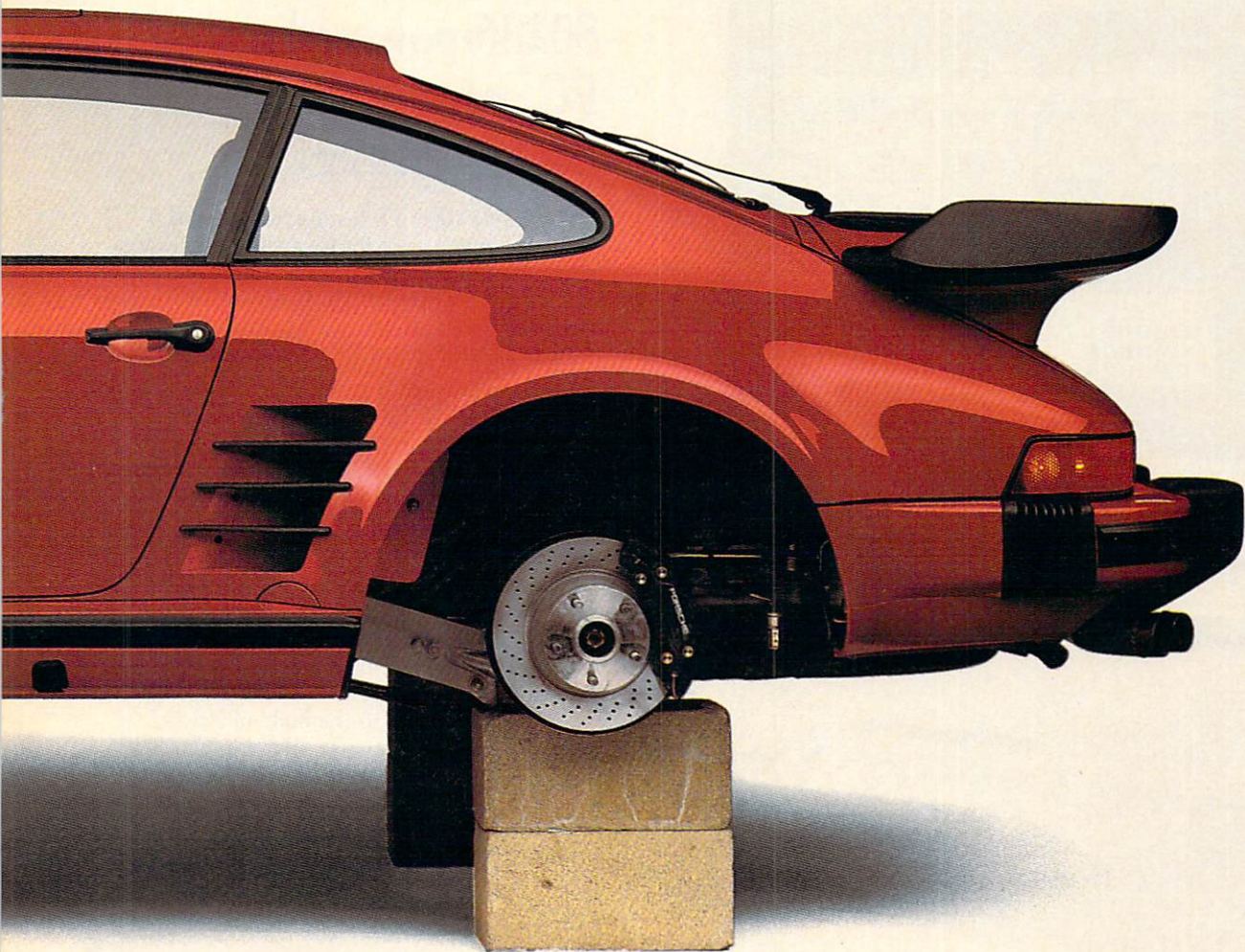
everything from next month's sales forecast to last month's household expenses—then changing the numbers in a flash as you ask questions like “what if I win the lottery tomorrow?” And finally, a database manager to store, sort and organize just about any kind of information you can think of.

Alone, each of these programs is a potent, practical tool.

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don't have AppleWorks.



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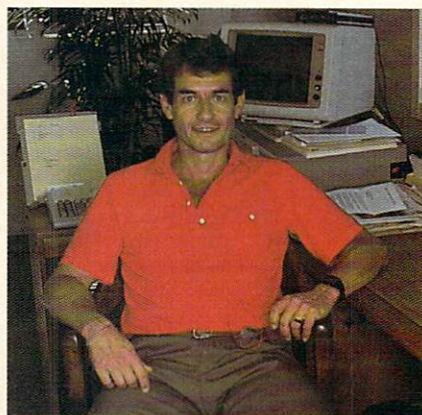
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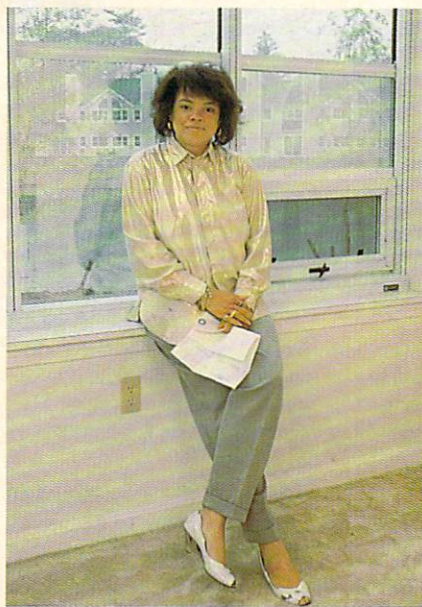
Special Issue

The New American Dream: Working On Your Own

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HOME AND OFFICE WORLDS MERGE

Page 38

Senior Editor Nick Sullivan describes the technology, the people, and the entrepreneurial spirit driving this rapidly growing new lifestyle. PLUS: Statistics from Link Resources' newly released 1988 National Work-at-Home Survey.

WORKSTYLES OF THE FUTURE

Page 39

An exclusive interview with futurist Alvin Toffler, who popularized the electronic-cottage concept in his 1980 best-seller, *The Third Wave*.

THE NEW INDEPENDENTS: 17 WHO LIVE THE DREAM

High-Tech Shangri-La

Page 41

After two decades of struggling to maintain an independent lifestyle, marketing consultant Michael Stein used technology to turn the tide.

A Woman Builds Her Own Place in a Man's World

Page 43

Marie Caldwell established her own firm in the male-dominated construction industry.

This Boss Spends 95 Percent of His Time at Home

Page 44

Sam Redman, a partner in a 40-person hardware and software company, works primarily from home (as does his partner).

PR Firm Flies by Getting Clients' Products Off the Ground

Page 46

Susan Parker meets her clients' needs for short-term public-relations services.

Sales Rep, Wired to Sell

Page 47

Steven Hoge helped design an electronic bulletin-board system at textbook publisher W.W. Norton so he and other home-based sales reps could network with New York.

Computer Executive Follows the Dreams of His Youth

Page 48

After wandering the globe from India to the United States, Ash Jain put down roots in California. Twenty years later, his own business is taking root.

Entrepreneur Finds Success Sweeter the Second Time Around

Page 50

Jack Dennard lost the first company he started, but used his expertise to launch a lucrative international consulting firm with his wife, son, and daughter-in-law.

Horses Dragged Her Away From the Sacramento Office

Page 51

Donna Koehler telecommutes so she can tend her Arabian horses.

Stockbroker Turns Jobs Broker

Page 53

Robert Linton, part-time investment banker, started his own business: hiring independent contractors to do home-based work for corporations.

He Dives, She Databases, and Business Stays Afloat

Page 54

Diver Dan Wagner brings in dolphins. His wife, Inez, keeps the books.

Confirmed Independent Turns from Rugs to Restoration to Real Estate

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Pat Mozer tried going to work for someone else. That didn't last long.

His Employer Went Under and He Went Home—With a Job

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Graphics designer Brian Bauer's life changed when his employer went out of business.

Successful Sheep Farm Stands Out From the Flock

Page 58

Priscilla Blosser's sheep farm forms the basis of an international mail-order business.

Sailor Steps Ashore to Launch International Yacht-Design Business

Page 60

Steve McGowan spent 12 years as a sailor. Now, his yachts sail the globe.

On-The-Job Skill Translates Into After-Hours Business

Page 62

Clarence Styron did an animated computer presentation for Monsanto Corporation that was so successful, he and his wife began moonlighting.

She Left the IRS for a Less Taxing Life

Page 63

To spend more time with her family, Alsy Graham set up a bookkeeping business.

She Quits a \$50,000 Job to Put Her Skills to Work

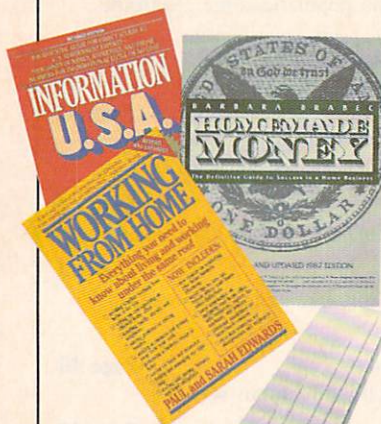
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Diane Simpson left the world's largest securities firm to apply her understanding of Japanese culture in her own international consulting company.

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ADVISORY BOARD

Lynie Arden, Editor, *Workstader News*; Julian Cohen, Director, *American Home Business Association*; Lis Fleming, Director, *Association of Electronic Cottagers*; Paul & Sarah Edwards, authors and sysops of *CompuServe's Working-From-Home Forum*; Charles H. Gajewy, Assistant Vice President, *Merrill-Lynch*; Gil Gordon, Editor, *The Telecommuting Report*; Tom Miller, Director, *ESU Telework Group* (a division of *Link Resources*); Joanne H. Pratt, Joanne H. Pratt and Associates, independent consultant.

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PRODUCTS

Software Special: 90-Plus Proven Programs for Home-Office Productivity Page 68

Reviews of time-tested, tried, and true programs for MS-DOS, Macintosh, and Apple II computers. The best word processors; financial-management software; flat-file, free-form, and relational databases; communications, desktop-publishing, and presentations software; and utilities and systems.

The Dream Machines: What's New in Hardware Page 88

Capsule descriptions for a dazzling array of top-selling high-tech home-office products: • Desktop Computers page 88 • Laser Printers page 92 • Personal Facsimile Machines page 96 • Portable Computers page 98 • Personal Copiers page 99.

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Dr. Jan Davidson, president of educational software publisher Davidson & Associates, discusses using computers to enhance reading skills.

PLUS: How to Select Good Educational Software.

Gardeners Go Back to Their Roots Page 102

How two Phoenix landscapers and their children strike a balance between family life and the demands of a home business.

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A tribute to those who dare to be one of a kind.

ShopTalk Page 22

Small-business and home-office expert Joanne H. Pratt answers readers' business questions. *This month*: A moonlighting software tutor, an aspiring software publisher, a real-estate salesman, and a translator seek advice.

Working Smarter Page 26

Ideas, information, and inspiration for those who both live and work under one roof: a monthly column by Paul & Sarah Edwards, authors of *Working From Home* and sysops of CompuServe's Working-From-Home Forum. *This month*: Business tips from Microsoft's Bill Gates; ways to stay healthy; and how to use a newsletter as a low-cost, effective marketing tool.

Workstyles Page 120

Senior Editor Nick Sullivan reveals how he achieved his longtime dream of finding a way to live in the country and hold a job in the city—without leaving home.

DEPARTMENTS

Letters Page 8

Upfront Page 14

News, advice, tips—and a shot of humor—on computing, using home-office technology, and running a small business. *This month*: Sweeping changes in Tandy's computer line; Los Angeles looks at a pilot telecommuting project as a way to alleviate gridlock; filing tax returns electronically; and some strategic marketing tactics.

Home-Business Resources Page 28

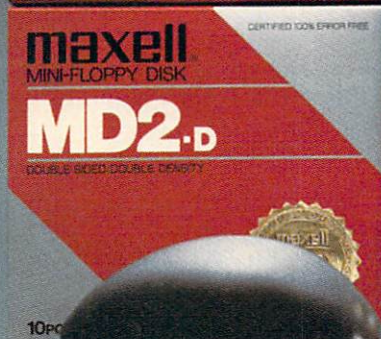
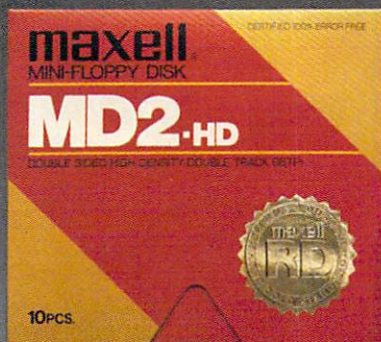
Contributing Editor Joanne Pratt cites pertinent books, publications, government and other institutions, newsletters, associations, and electronic networks that are packed with practical help for the independent business operator.

Checklists for Success Page 65

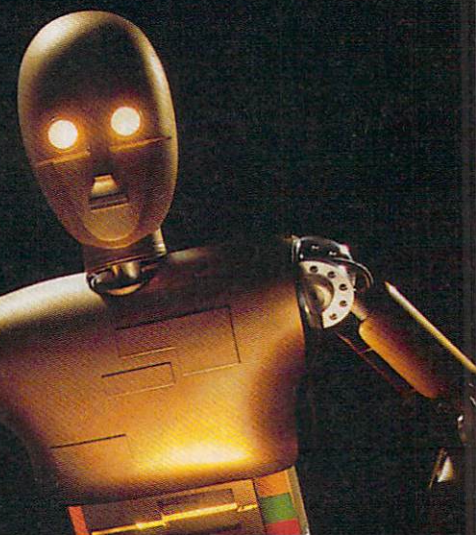
Nuts-and-bolts lists: 8 steps to starting out right; 13 strategies for successful money management; 6 tips for time management; 4 pointers for managing yourself; 10 quick success tips, and Murphy's 7 laws of working from home. PLUS: Advice from experts.

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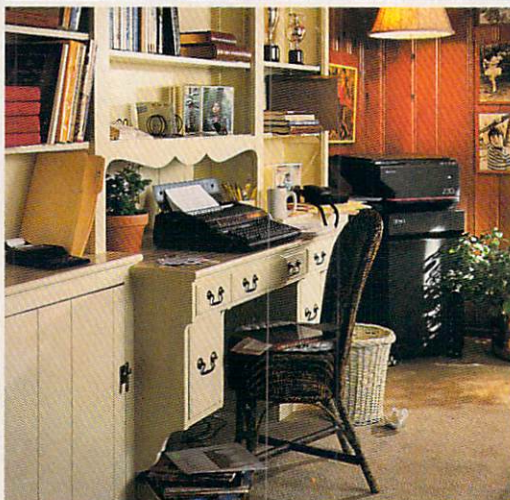
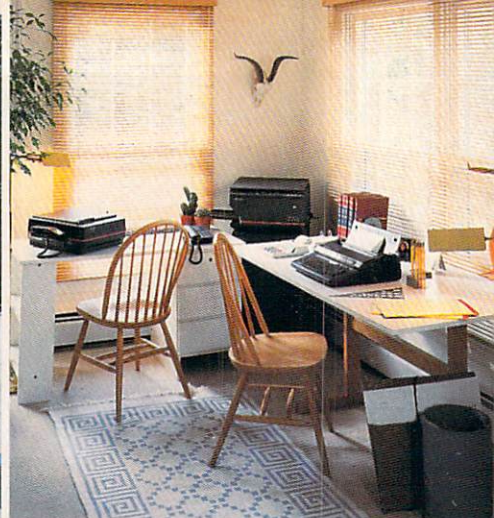
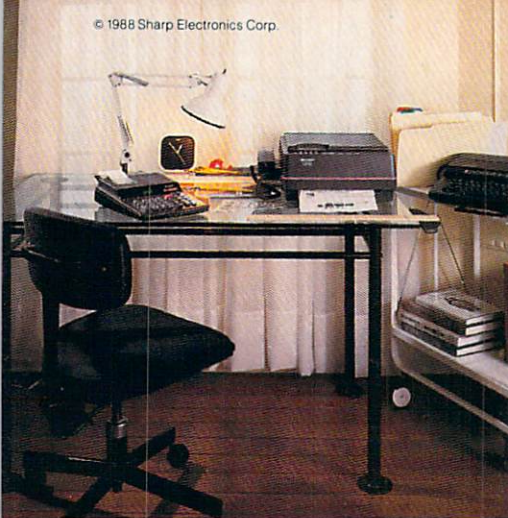
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CIRCLE READER SERVICE 22



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Top Row: PC-4502 Lap Top Computer; UX-140 Facsimile; UX-80 Fax, Phone & Copier; Z-70 Compact Copier
Bottom Row: EL-2626 Desktop Calculator; EL-2630 Desktop Calculator; PA-3130 Electronic Memory Intellwriter™

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CIRCLE READER SERVICE 32

A Tribute to the People Who Dare to Be One of a Kind

People who operate a home office are considered pretty sexy these days. Articles about them appear everywhere, often including brief analyses of who they are and what makes them tick.

Now we come along with this special issue, which introduces HOME-OFFICE COMPUTING as an entire magazine devoted to just one segment of the people who work at home—those who use computers and related technology to achieve their goals. To the people in home offices, running their own businesses, telecommuting, or bringing corporate work home, we dedicate this anniversary issue, which marks five years of publishing (as both FAMILY COMPUTING and FAMILY & HOME-OFFICE COMPUTING), as a tribute. We salute the millions who dare to be one of a kind. Our theme, "The New American Dream: Working on Your Own," expresses a celebration of the individual.

In the process of completing our evolution to HOME-OFFICE COMPUTING (for more on the change from FAMILY & HOME-OFFICE COMPUTING, see the August Editor's Note), we spoke to hundreds of people who work from home. We found that behind the hype are practical, down-to-earth people with hope for and devotion to their success. Time after time, our editors and our researchers came away inspired. Uniformly, we found that we were talking to and about people with little or no artifice; people with guts who were willing to gamble on themselves; people with know-how and experience and confidence that comes from having done a job well; people with the boldness to master the latest technology—computers plus peripherals, personal copiers, fax phones, and full-feature telephones—and to make it work for them; above all, people who know what they want and are willing to do what it takes to get it. You will learn more about these people—qualitatively and quantitatively—when you see the figures compiled by Link Resources in its third annual National Work-at-Home Survey (page 38) and the 17 individual profiles on "The New Independents" (page 41).

I'm struck by the incredible opportunity that technology has enabled us to create for



"We were talking to and about people with guts who were willing to gamble on themselves; people who know what they want and are willing to do what it takes to get it."

ourselves. This is a new kind of opportunity that clearly separates us from the past. It's not the chance at a good job or a big business deal. It's not an opportunity to join a large organization or even to head one. Instead, it's the chance to head out on your own, to spend time the way you choose and be with people you care about—particularly, family—in a place you want to be. And on top of it all, it's a lifestyle merger, not the corporate kind, but a personal one, a merger that combines know-how and professionalism with the determination to succeed on your own terms.

This high degree of professionalism, which makes this new generation of independents stand apart from those who pre-

ceded them, is the mark of the managers and white-collar service-industry workers who are comfortable with technology. Using a computer to process information, to compile and call up customer lists, to bill, to promote a business and solicit more, to plan, and to communicate to others is the foundation. Creating high-quality documents—increasingly with a laser printer—copying them, and finally transmitting them—perhaps by fax—are all part of the picture, so much of which is based on telephone technology.

These new independents watch for, learn about, and adopt the technological advances that enable them to enhance their workstyles, their earning power, and their lifestyles. That awareness is part of this new age of opportunity.

Each issue of HOME-OFFICE COMPUTING will help make the most of this opportunity. Each issue will contain four major content areas:

1) computer products—both reviews and applications; 2) home-office products—both reviews and applications; 3) business-related advice; 4) family topics—both learning and leisure.

We will help with such fundamentals as:

- saving time • raising and managing money • locating the best equipment, software, or services • competing with the corporate world • comparing services and products side-by-side • integrating home office and family • managing finance, tax, and insurance issues.

Each month, HOME-OFFICE COMPUTING will bring you easy-to-read and easy-to-digest information you'll need to get the most from the technology and to make the business and buying decisions that will ensure your independence and success.

Claudia Cohe

CLAUDIA COHE
EDITOR-IN-CHIEF

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LETTERS

LINKING HOME AND OFFICE

Senior Editor Nick Sullivan's discussion with Tom Miller of Link Resources about the 1987 National Work-At-Home Survey (March; page 48) clearly describes the situation of many who work in both the corporate-office and home-business environments.

In the corporate world, I'm a public-relations manager for a Fortune 500 company. In the work-at-home world, I operate an information brokerage and use on-line databases to gather information for consulting firms and small- to medium-size businesses.

My home-based business doesn't yet provide for my family but it does give me satisfaction. I appreciate the support and ideas I find in your magazine every month.

GARY PLUMMER
PRESIDENT, RESEARCH WORKS
Succasunna, New Jersey

Also, I now have set up a home office in a spare bedroom.

GERMAN J. RIVANDENEIRA
Simi Valley, California

Your magazine is perfect for my level of expertise. Please keep up the good work.

TERRI N. HEMINGS
Camarillo, California

CHANGE THE NAME!

What happened to the structure of your magazine? You've dumped the things that made it good, such as K-Power and the programs in it. What kind of "home" computer user wants a personal copier? Please decide if you are a business magazine or a home magazine. If you don't change your magazine back, you should change the name to HOME-OFFICE COMPUTING.

PETER BOWERS
Exeter, New Hampshire

CALL FOR CONSUMER JUSTICE

In her "Mail-Order Buying Guide" in the May issue, Bernadette Grey offers mail-order customers a false ray of hope—that they enjoy protection under the law.

While it is true that many laws are in place to protect the mail-order buyer, achieving compliance with those laws is quite another matter. I know of one New Jersey company that avoided prosecution under the cloak of protection provided by the Federal bankruptcy laws.

If the consumer protection laws of our nation are to work as intended, we must remove the protection now provided unscrupulous retailers under these laws. Often, it seems that consumers have minimal chances of achieving legal satisfaction.

JAMES HAUPT
Percy, Arkansas

EXERCISING THE FRANCHISE

Our home-based franchise company was featured in your May issue. Judging from the quality of response to the article, your readership is certainly a breed apart.

None of the national magazines and newspapers in which we advertise have produced inquiries of the caliber that ensued as a result of this article. The inquiries were all neatly prepared—mostly by computer—and were intelligently phrased and thoughtfully presented.

KENNETH T. AUSTIN
PRESIDENT, HOUSE MASTER OF AMERICA
Bound Brook, New Jersey

COMMENTS ON COVERAGE

I was a subscriber back in 1984 when I had only an Atari 800XL computer. I still own the Atari but have added an IBM PC XT, and I'm back as a satisfied subscriber again.

Your magazine should be named HOME-OFFICE COMPUTING. When I subscribed, it was my favorite, as it contained articles on educational software and personal-finance software for everybody. I didn't know that 11 out of my 12 issues would turn out to be aimed at home-office readers.

ALICE YUN
San Jose, California

EDITOR'S NOTE: Following a dream is not always easy, but with this month's name change to HOME-OFFICE COMPUTING, we have made a commitment to the largest and fastest-growing segment of our readership. However, we recognize that more than just work goes on in a home—or a home office—so each month, we'll continue to dedicate a large section of the magazine to educational and leisure-time computing in the extensive "Family Computing" section.

For more on the significance of the work-at-home phenomenon and how we will cover it in subsequent issues, turn to the Editor's Note on page 7 and "The New American Dream" on page 37.

CORRECTIONS

The correct setup fee for AT&T's nationwide WATS 800 Ready Line is \$97.50; the service fee is \$20 per month. (This reference appeared in "Setting Up a Professional Telephone System" in July, page 39.)

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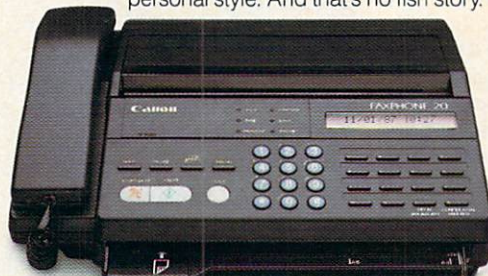
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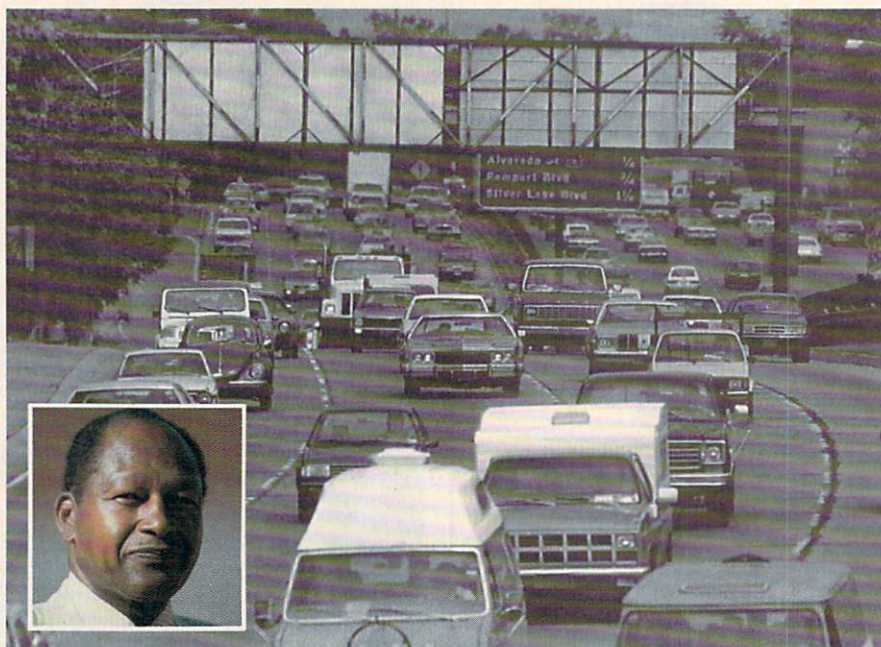
L.A. Fights Gridlock with Work-from-Home Pilot Project

Los Angeles. The land of the physically fit and the emotionally laid back is also an aggravating tangle of polluted freeways crawling with cars.

The City of Angels is starting to take small, yet progressive, steps to help reverse its notorious gridlock and air-pollution problems. Mayor Tom Bradley and the Los Angeles Telecommunications Commission are designing a pilot telecommuting project, modeled after an already existing state plan.

More than 200 state workers and their managers and supervisors have begun participating in the state's two-year pilot telecommuting project. In January, 100 employees began working from their homes, and another one hundred are commuting to satellite or neighborhood offices near their homes. Throughout the pilot project, the telecommuters will participate in both work-related and traffic-related research. The results of the study on telecommuting in state government will be reported to the legislature and Governor George Deukmejian in early 1990.

Jack Nilles, known as "the father of telecommuting," is working with the Los Angeles Telecommunications Commission on its project. He says that trying to stop Los Angeles's gridlock by such traditional methods as ride sharing is "like exhorting a raging bull to diet as he charges toward you,



L.A. Mayor Tom Bradley (inset) says no to gridlock and pollution.

in order to lesson the ultimate impact."

Traditional methods are not reducing automobile traffic, says Nilles, because the population is growing and because "we continue to ignore a fundamental human drive: Most people want to have control of

their lives." Commuters enjoy the freedom of driving their cars rather than joining car pools, or van pools, or using mass transit. People like telecommuting for the same reason: It gives them the license and flexibility to manage their lives. —LIS FLEMING

Tandy Adds Sparkle, Power to 1000 and 3000 Lines

On July 27, Tandy introduced the 1000 SL and TL computers that continue the 1000 tradition of feature innovation within PC-standard computing. There's a new multi-color hi-res graphics mode and a knock-'em-dead sound input-output feature that lets the 1000 play Vivaldi, Van Halen, or your own voice. Ease of use? Tandy promises the clearest-ever documentation, including a quick "read-me-first" pamphlet that will have users' computers up and running in minutes. DOS, a spelling checker, and other common operations are in ROM for lightning-fast access. And a standard 101-key keyboard (at last!) ends compatibility and "mushiness" complaints.

DeskMate 3.0, the integrated software that comes bundled with every Tandy machine, offers 10 new or spruced-up application programs. The SL's 8086 microprocessor (the same one that's in IBM's Models 25 and 30) runs at 8MHz; the TL has an 80286



The Tandy 1000 TL

chip. Costs are \$899 for the SL and \$1,299 for the TL, without monitors.

Another new computer, the 3000 NL (for \$1,699, replacing the 3000 HL) is a 10MHz AT-compatible with four 16-bit and three 8-

bit slots, plus a high-performance memory-expansion slot. It can take up to 16MB of RAM and offers an array of storage options, including a 344MB internal high-speed hard disk (\$3,899, includes disk controller) that trades data with the CPU 10 times faster than a standard hard-disk drive does.

With just a keystroke or two (and a modem), you're connected to the new Tandy co-sponsored PC Link electronic service. *DeskMate's* friendly drop-down menu interface and function keys let you move effortlessly through Grolier's Electronic Encyclopedia, Tandy's customer-service hotline, and other offerings. Only \$9.95 a month (first month free), plus telephone charges, gives you unlimited evening and weekend access to the basic service. Extra costs apply for daytime and premium services.

Watch for reviews and details on the new Tandy machines in upcoming issues.

—LANE PAAVOLA

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NEFAX 3EX is also a phone, with automatic redial and an additional 50 speed dial numbers. In automatic operation, it defines incoming calls as either fax or phone and answers accordingly. You can also instruct NEFAX

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Small Banks Let Small Businesses Take the Credit

Despite customer pleas to pay by plastic, you can't accept their credit until a bank accepts yours. And getting merchant account status is seldom easy. Few major banks will accept applications for merchant accounts from owners of home-based businesses. Banks say that such businesses are too risky because they're often undercapitalized and use the money before it has cleared.

Even with the banks that will approve your account, there may be a catch. They may require a security deposit equal to six months' projected sales, tack on higher service charges and additional monthly fees for inactivity, or force you to call in every order

for prior phone approval.

Small independent banks are likely to be the most cooperative. One such bank is Round Rock National Bank in Round Rock, Texas. Loan officer Linda Thomas says that before approving an account, she runs a credit-bureau check and then looks at the average checking-account balance. "What I'm looking for is someone who is strong financially," she explains. "If the business is new, we expect to have an established relationship with that person. If not, then a couple of years of business experience is required. We want to know that if merchandise is returned, the account can handle it."

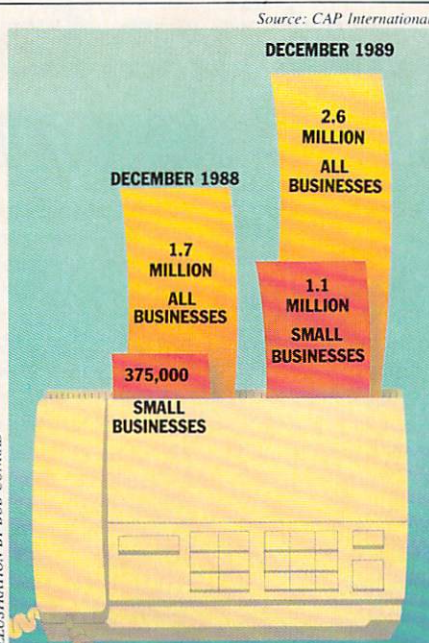
—LYNIE ARDEN

Just the Fax

Small business owners "need it today" just as much as their Fortune 500 counterparts. Here's the proof: They've been buying 35-40 percent of all fax machines sold, according to market-researcher CAP International.

Some facts on fax: By the end of this year, there will be nearly 1.7 million fax machines in homes and businesses across the nation. Small businesses (up to 99 employees) will have purchased 375,000 of those units. By December 1989, 1.1 million of the 2.6 million fax machines in place will be used by small businesses.

Remarking on the allure of fax machines, Donald Ryan, director of CAP's Image Communication Systems Market Requirements Service, said, "Facsimile is an everyday fixture in American business. This dynamic technology is achieving equal status with other essential pieces of office equipment such as copiers, typewriters, and phone systems."



Small Businesses Outpace Total Businesses in the Race to Buy Fax Machines

386 Power for a 286 Price Tag



Compaq Computer is rolling out of its factories the Honda Prelude of high-performance 80386 computers—an alternative to costly 20MHz machines. The Compaq DESKPRO 386s, which is priced like a slower 80286 IBM PC AT, breaks new ground as the first computer to use the 16MHz Intel 386SX microprocessor.

The Compaq DESKPRO 386s Model 1, which costs \$3,799, has a small footprint and comes with 1MB of memory (expandable to 13MB), a 5.25-inch floppy-disk drive, and a VGA graphics controller. The machine is also available with a 20MB or 40MB hard-disk drive for \$4,499 and \$5,199, respectively.

Compaq, among the fastest growing companies of the eighties, already leads the industry in sales of powerful 80386 computers. Launched in 1982, the Houston, Texas, company had yearly sales topping \$1.2 billion within five years. However, Compaq has never before been touted as a price leader.

If you find the speed, multitasking, and OS/2 capabilities of a 386 machine enticing, but you've been put off by the price, take a closer look at this 16MHz alternative. (Look for a review of the Compaq 386s in an upcoming issue of HOME-OFFICE COMPUTING.)

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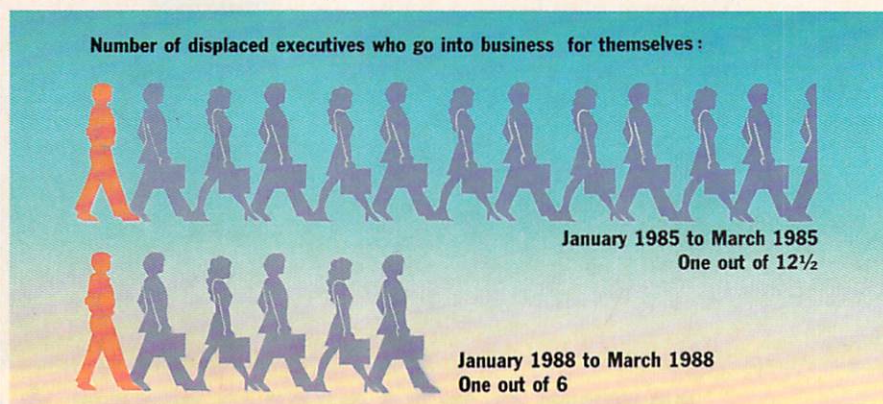
Mail Tax Returns Electronically

Have modem? Your tax return will travel—and your refund check will get processed faster, too. Nearly 600,000 1987 tax returns were filed electronically, and the Internal Revenue Service estimates that the number will soar to 4 million this year.

Although only accounting firms and service bureaus are filing returns electronically now, the Internal Revenue Service hopes that by the early 1990s any individual taxpayer will be able to file via modem. (To authorize the form, the IRS will send you a copy, which you must sign and return.) The benefits are two-sided: Taxpayers receive refunds three weeks earlier, and the IRS saves 69 cents in labor costs per filing.

Fired into Business

Getting fired often ignites the first flames of a new business. One out of six corporate managers who loses his or her job starts a business, according to Challenger, Gray & Christmas, an outplacement firm that re-trains and finds jobs for displaced workers.



Source: Challenger, Gray, & Christmas, Inc.

Want to Work from Home? How to Convince Your Boss

The day may come when your boss sends you home for good. Home to work, that is.

A number of the country's biggest bosses, including J.C. Penney, Prudential Insurance, Amtrak, and Pacific Bell, are letting employees spend part of the week working from home and, as a result, are proving that telecommuting is one of those rare win-win opportunities. Company victories include lower operating costs, better employee recruiting and retention, and productivity gains of 15–25 percent, according to Gil Gordon, a telecommuting consultant and editor of *Telecommuting Review*, a monthly newsletter for employers. On the flip side, telecommuters avoid the time, costs, and hassles of commuting and enjoy a more relaxed and distraction-free work setting. They can blend family and job duties as needed—and still hold onto steady paycheck.

Gordon claims that most companies cling to tradition and are reluctant to adopt this kind of innovation without careful evaluation. That's one reason why telecommuting is an evolution, not a revolution. "As employers come to understand the business benefits of telecommuting," he says, "they'll realize that telecommuting, when tailored to specific needs and implemented selectively, works."

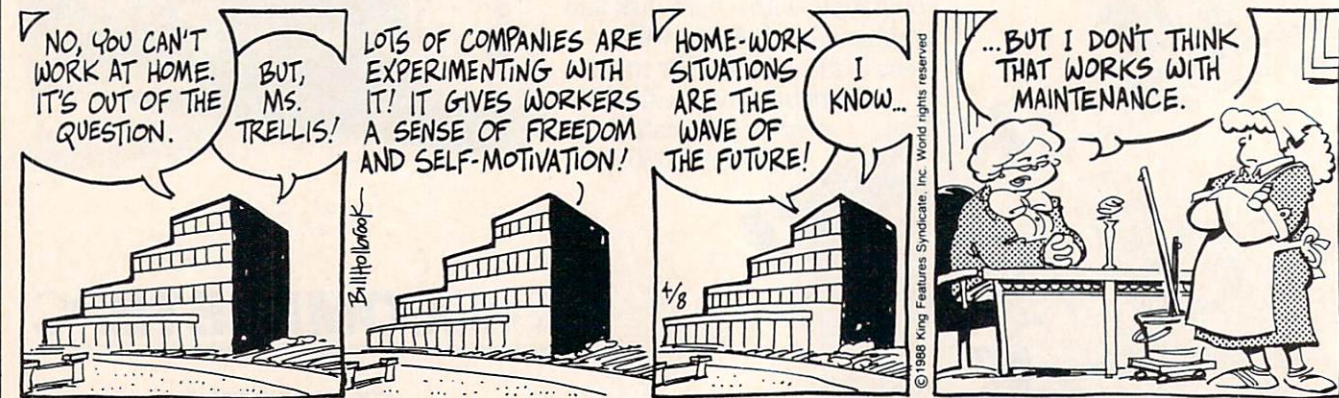
What should you do if you're trying to trade in your commute for time in your home office? Here are Gordon's tips on selling your employer on the idea:

1. Look beyond the benefits to yourself and figure out what's in it for your boss. How will the company gain if you and others telecommute?
2. Start off slowly and don't ignore the weight of tradition. Even if you could do your job as well or better from home four

days a week, maybe you should strike a deal with your boss to try working at home one day a week for a month or two. Once both of you get used to the idea—and the boss sees that you're at least as productive as you are in the office—you can gradually increase your at-home time.

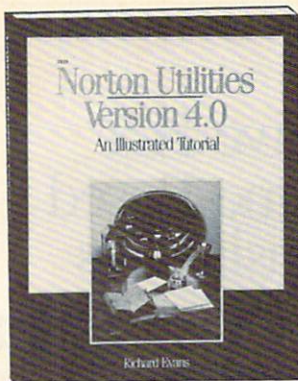
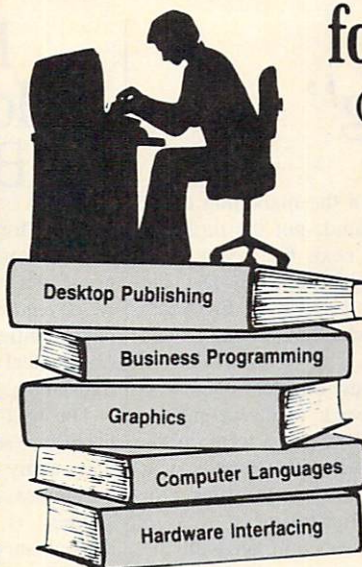
3. Be willing to be held accountable and to be your own boss. If you have a weakness for midday soap operas or need the formal structure of the office to motivate you to work, maybe telecommuting isn't for you. Remember that your manager will be more willing to give you this flexibility if you have a track record of being reliable and producing quality work.

4. Make sure you've considered the possible effects on your co-workers and clients. Your telecommuting shouldn't tax others by making their work more difficult because you're not around.

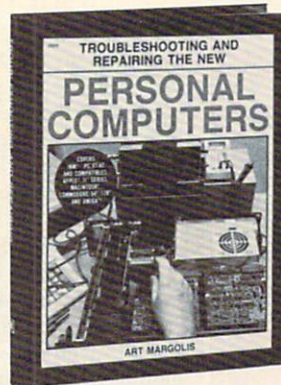


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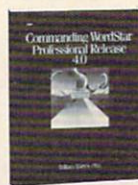
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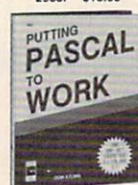
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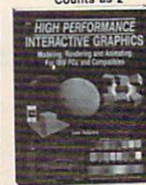
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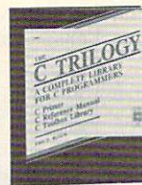
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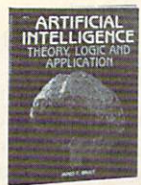
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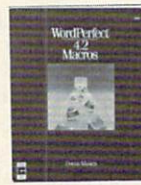
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BUSINESS**

Jay Conrad Levinson

Small business-marketing consultant Jay Conrad Levinson searched high and low for books that would help his clients become self-contained marketers. When he couldn't find any good ones, he decided to write one himself. That book, *Guerrilla Marketing* (Houghton Mifflin, 1984), says Levinson, "enables the small-business person to succeed in marketing by investing time, energy, and imagination, rather than by using the brute force of a huge budget."

How do you become a "guerrilla"? Levinson, of course, suggests that you start by reading his book, which has sold more than 100,000 copies. Then you need to write a short, seven-line marketing plan. Your plan should include (1) your marketing purpose, (2) the benefits you're offering, (3) your target audience, (4) marketing vehicles (direct mail, newspaper ads, word-of-mouth), (5) your niche, (6) your identity (also known as image), and (7) your marketing budget.

Your marketing budget should be a percentage of your projected monthly gross sales, not profits, for the year. He suggests that you start with a marketing budget of 10 percent. Invest 10 percent of that number on all of the people in your marketing area, 30 percent on identifiable prospects, and 60 percent on current or past customers.

To track the effectiveness of your activities, develop a marketing calendar. Make 52 rows to represent the weeks of the year and make five columns across the top. In the

first column, jot down the marketing event that week; in the second, put the thrust or purpose of the event; next, the media used; then the cost of the marketing; and, last, the results or sales. By the end of the year, you'll be able to see which marketing tactics have worked best.

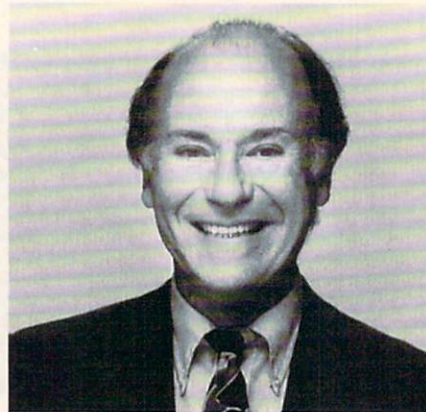
Levinson advises new business owners to dedicate one day a week to marketing for the first month and a half day a week in the second month. After the third month, you should spend only a few hours a week promoting yourself and your business.

Levinson has a lot in common with the growing number of corporate climbers who get tired of all those ladders—and strike out on their own. By 1969, he had climbed to the top of big-time advertising. He was an award-winning vice president and creative director at J. Walter Thompson in Chicago, then the largest advertising agency in the world, and directed advertising for Sears, Alberto-Culver, Quaker Oats, and many other large corporate accounts.

But he gave it all up after accepting a position in 1971 with another advertising firm in San Francisco. "After moving here (San Rafael, California), I felt that the surroundings were too beautiful to be confined to an office," says Levinson.

Today, 17 years later, Levinson still works at home. To date, he has written 10 books, several nationally syndicated columns, and countless articles; given hundreds of seminars and speeches; and publishes the bimonthly *Guerrilla Marketing System and Newsletter* ([800] 621-0851, ext. 140). He has just updated *Guerrilla Marketing*, which will be released this January as the *Guerrilla Marketing Attack* (Houghton Mifflin).

—STEVEN F. EDWARDS



Jay Conrad Levinson

Five Hot Home-Based Businesses

Looking for the chance to work at home for a stable company on a contractual basis? A newsletter for home-based workers, *The Worksteader News*, has pinpointed the best opportunities for you: (1) word processing, (2) medical transcribing, (3) typesetting, (4) translating, and (5) direct sales.

The best potential clients for these businesses are service bureaus and small companies, many of which started as home-based businesses. Freelance translating, for instance, is handled almost exclusively through service bureaus, and the labor pool is reportedly 90 percent home based. About half the typesetters in the composition industry work from home.

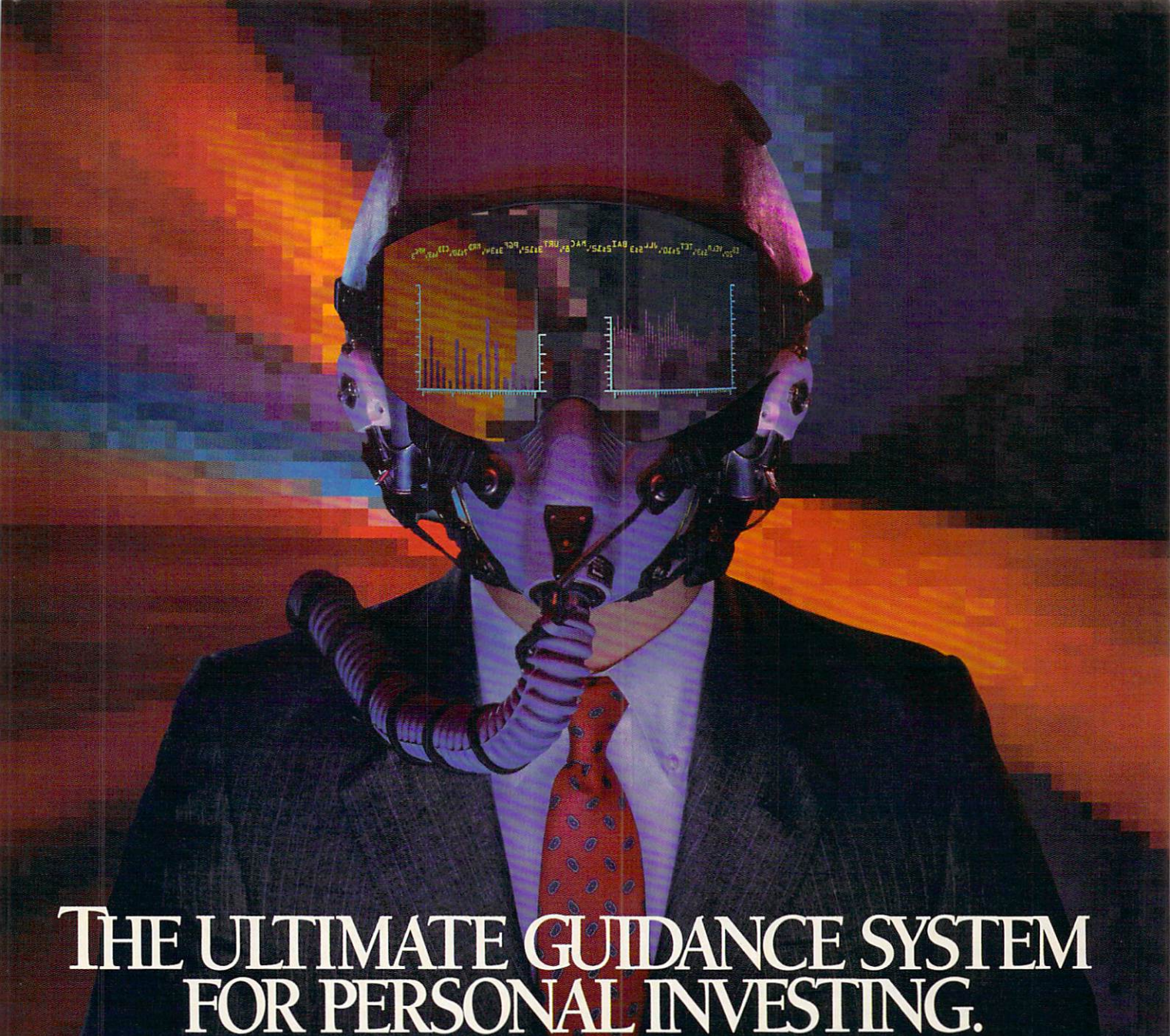
All of the top fields depend heavily on the latest technology—such as computers, personal copiers, fax machines, and modems. And all show continued growth, have more openings than they can fill, and offer the chance to make a good salary.



Get Things Done

Do you never seem to get things done? Neither did reader Paul Wang, president of Four-D Computer Graphics, Inc., of New York City, until he found the book for people who are overwhelmed by work. *Getting Things Done*, by Edwin C. Bliss (Bantam Books, \$4.50), is a must for anyone who is disorganized. "It's certainly helped me learn to better manage my time and my business," says Wang, who recommended the book to a HOME-OFFICE COMPUTING editor.

Getting Things Done—unlike many other self-help books—doesn't require that you read the entire book in order to change bad habits. Helpful advice is presented in bite-size chapters—two or three pages in length—short enough to digest and put into action the same day. The 208-page book includes chapters on efficiency versus effectiveness, clutter, proliferation of files, dollar value of time, and more. ■



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You Can Bid on—and Win—Government and Corporate Contracts

BY JOANNE H. PRATT



Does your business seem too small for jobs you'd like to win? Don't overlook opportunities to increase your size and better your skills without the inconveniences

of adding overhead and staff.

You can assemble special project teams in numerous ways. For example, invite people with the skills you need to form a joint venture. Or contract services from other small businesses similar to yours. The new "flexible work force"—which you may be part of—can help you compete with minimal capital investment and risk.

Knowing how to put together teams can help you sell to big business and government agencies. Discover the services they need by putting your business on a list provided to purchasing agents. Call your local U.S. Small Business Administration office for announcements of "how-to" workshops that will teach you the bidding process and help you win the bigger jobs.

Q. I need reliable information about the add-on boards that allow Apple programs to run on MS-DOS computers and MS-DOS programs to run on Apple computers. We are considering buying an MS-DOS computer for our home, but I'd like to bring home Apple IIe programs that I've developed at school. And, naturally, the children can't wait to get their hands on the computer for fun and games. Do these cards really work?

JO N. CARLSON
Fort Myers, Florida

A. Before looking into add-on boards, you should know about the Cordata WPC Bridge, an all-in-one system—a turbo PC XT computer that runs Apple software. You toggle between IBM PC and Apple modes by using the ALT-ESCAPE keys. The WPC Bridge lists for \$1,695. For more information, call (800) 621-6746; in California, call (800) 331-5867.

The Trackstar 128TM Apple emulator board fits into a slot in MS-DOS computers.

Central Computer Products (330 Central Avenue, Fillmore, CA 93015; [800] 456-4123) sells the card for \$395. With the included Apple external disk drive, your hybrid should be 98-percent compatible with Apple II software.

Q. My current job as a salesman takes me into many office environments. I've noticed that even though thousands of dollars are spent on computer equipment and software, few people actually know how to use the equipment or software. I see a need for consulting and teaching others to use Lotus 1-2-3 and other software, and I could provide this. How can I turn my idea into reality?

PAUL R. TURNER
address unavailable

A. You're right. Office workers do need to learn more ways of using their software. The trick is getting paid for your training service. As a consultant, I've tried a few strategies that *don't* work, but maybe this one will: Try packaging a Lotus 1-2-3 "clinic" as a three-hour course you can sell to the companies that already know you.

Ask your sales contacts to introduce you to managers who are in charge of employee training. If the company won't pay all the

training costs, maybe it will provide classroom space so you can offer the course to employees at an affordable cost after hours.

Q. I am interested in designing software. I wrote a program that deals with original comic-book-like characters. How do I launch my software, and how do I protect the names of the characters and the program?

LONDON LOUD
Lawton, Oklahoma

A. Without \$200,000 or more of financing, it's almost impossible to launch new software through national commercial channels. If you have the time but not the money, I recommend that you write shareware. Shareware is software that users can download from telecommunications services and try out before they send the author a registration fee, or purchase price. Some authors earn substantial incomes by writing these programs, most of which sell for less than \$20. (For more information about shareware, refer to "A Beginner's Guide to Shareware" in the August issue.)

Once your program runs flawlessly on your machine, you need 20 to 30 "beta testers" to hunt for defects you might have overlooked. Choose people with a wide variety of MS-DOS experience.

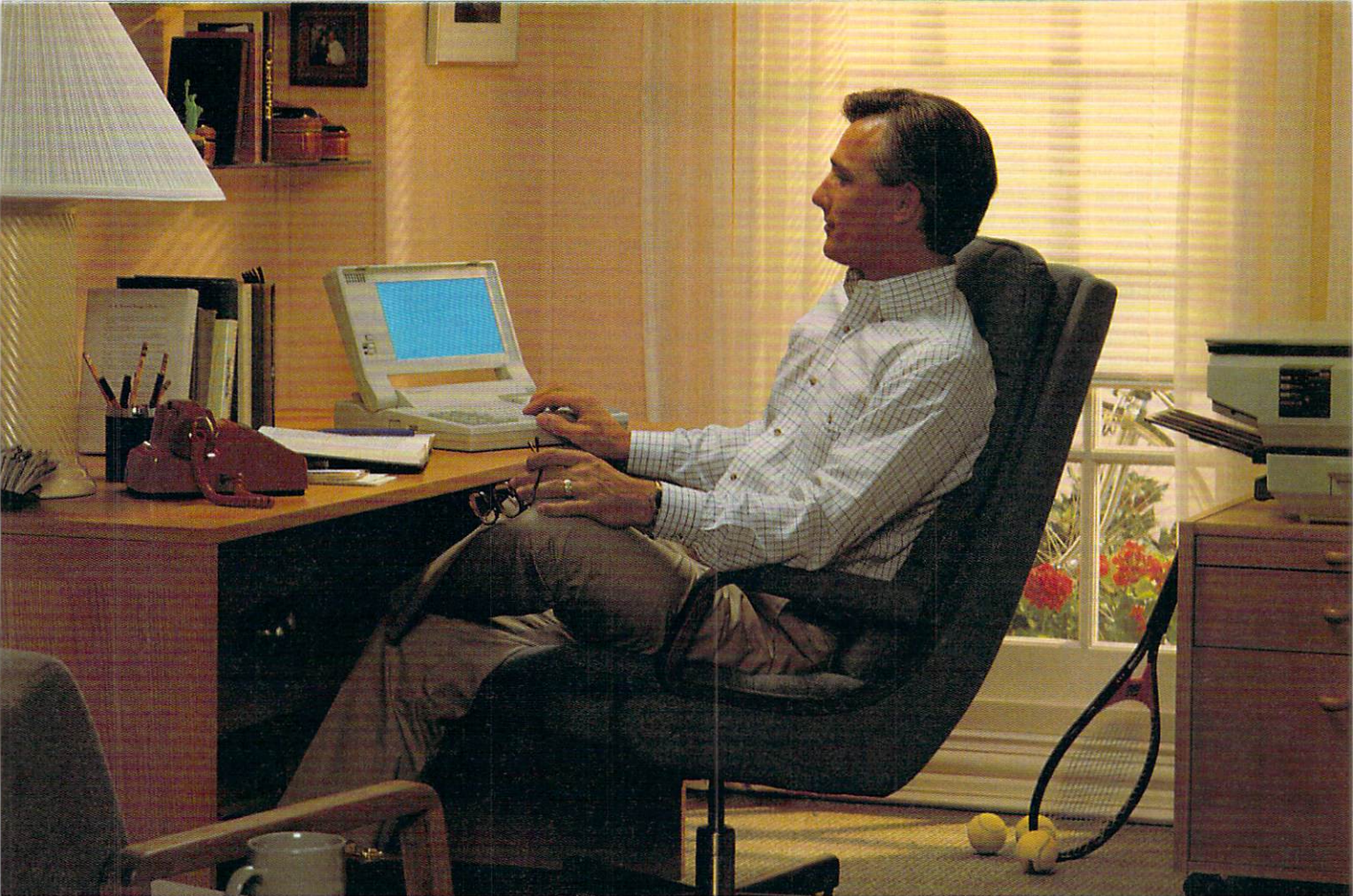
From your testers, you'll discover machines that require modification to the program in order to run it; bugs you need to fix; and additional features that users might like.

Your goal is acceptance of your program by one of the major shareware dealers, such as PC-SIG (1030D East Duane Ave., Sunnyvale, CA 94086; [800] 245-6717) or Blue*Dot Library, Inc. (7219 Duffield Drive, Dallas, TX 75248; [214] 475-7554). Jim Parish, technical director at Blue*Dot, will gladly discuss with you the market acceptability of your program. But in order to join the shareware big leagues, you have to start on the local level.

Your best protection for software is your copyright. Before you circulate your program, add a copyright notice to the first screen. Use the form: ©1988 John Doe. Then register



The Cordata WPC Bridge runs MS-DOS and Apple II software.



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Most companies outside the entertainment field have stopped trying to copy protect software. Their attempts to limit the number of legal copies just angered customers and led to the development of "unlocking" software.

Q. I will soon be starting a mail-order business from my home. I am a single parent with a 2-year-old daughter. I find the individual insurance rates to be quite expensive. Is there a group that I could join that would offer group insurance?

SHARON J. STRATTON
Ridgeley, West Virginia

A. Buying power is a valuable benefit of joining a group. Two associations for the self-employed that offer affordable medical insurance are The National Association for the Self-Employed ([800] 433-8004) and the American Home Business Association (AHBA; [800] 433-6361). Call them for the

coverage and rates that apply to you and your daughter. Dental insurance is also available, but AHBA points out that buying it may not be cost-effective. (For more information on organizations read "Home-Business Resources" on page 28.)

Q. Hello from Canada!

I'm a freelance writer who works out of my basement. I want more fonts than my WordPerfect 4.2 software offers, but I am not particularly interested in desktop publishing. What software would give me a good selection of fonts, would be a snap to use with WordPerfect, and would be relatively inexpensive? (I am not a technical person, so the simpler the software, the better.)

TIM YIP
Edmonton, Alberta, Canada

A. Your best bet is to upgrade to the new version 5.0 of *WordPerfect*. If you purchased *WordPerfect* 4.2 before February 1, 1988, you can purchase an upgrade to version 5.0 for \$60. Some font sizes have been added—you now will have fine, small, large, very large, and extra large from which to choose. And, according to early reviews, changing fonts is quite easy. The actual number of typestyles available to you depends on your printer. *WordPerfect* can set up any fonts that

your printer can deliver.

Q. I'm in Italy and teach English as a second language. I want to buy a computer to help speed my ability to translate from English to Italian or vice versa. I'm considering the Amstrad line of computers. Do I really need a computer, and is this a good choice?

DONALD DAIGNAULT
Montebelluna, Italy

A. The Amstrad, one of the most popular computers in Europe, is a good choice for someone stationed abroad. When considering purchasing any computer, one of your first concerns should be the availability of repair without having to ship your computer off to some distant shop.

Nota Bene (Dragonfly Software, 285 W. Broadway, #600, New York, NY 10013; [212] 334-0445; \$495) must have been written with you in mind. It's a multilingual word-processing program that lets you switch between American and Italian keyboard layouts, alphabetize in American or European order, and print foreign characters. If you are ever transferred, you can even use it to type in Russian, Czech, Hungarian, Polish, Classical and Modern Greek, and Hebrew (from right to left).

Nine windows will help you compare En-

When it comes
to personal copiers,
our competition
really taught us
a lesson.

glish and Italian texts. You'll probably also make use of a red-lining feature when working with students. As long as you stick to English, you'll be able to check your spelling and take advantage of the excellent *Word Finder* thesaurus. Talk to computer dealers in Italy to see if there's a compatible Italian dictionary and thesaurus as well.

Another option to consider is the *Toltran System*, which should be available by the end of this year. This software will enable users to enter text in one language and receive a grammatically accurate interpretation in another language. In addition to interpretation from one language to another, the software also allows for translation from and into multiple languages. The first language offered will be Spanish, followed by French and German versions. Toltran also plans to add other languages prominent in international business. The business model designed for the 640K IBM PC, which includes two modules for the language you enter and the language you'll receive, should cost more than \$1,000. Unfortunately, the Italian module will not be one of the early versions. Call Toltran Ltd. ([312] 382-4997) for more information.

Q. Why are the two real-estate programs that I want priced at almost \$4,000? What

could possibly make software cost that much? How can I determine if one of these programs is worth buying? And how can I find a comparable, competitively priced piece of software?

RICHARD E. HUDSON
St. Louis, Missouri

A. You are interested in vertical-market software. It is possible to market a general-purpose program such as a spreadsheet to almost anyone who has a computer, so the cost of research per package is very low. The same development effort—perhaps more—is required to write a real-estate program. Add to the research expense the cost of marketing and maintaining the software—technical assistance, debugging, and upgrades—and you have a big-bucks investment with only a small number of customers over which to spread the cost.

But the program may be worth the money. To evaluate software for my business clients, I ask the software company for the number of installed packages and request references so that I can telephone their customers. You will be amazed at how much you can learn concerning the strengths and weaknesses of software.

Look for other real-estate software in the trade association periodicals.

A READER RESPONDS

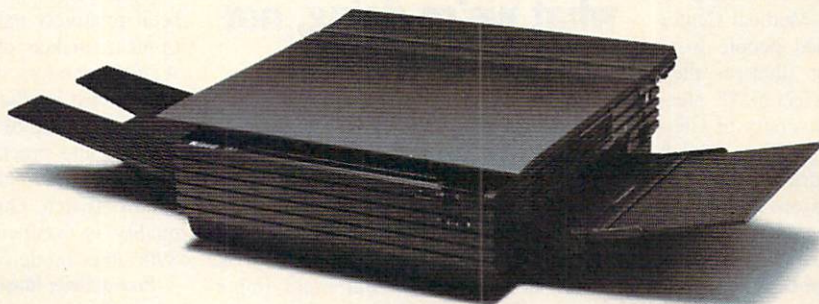
Here's a tip from a reader concerning a question that appeared in the May ShopTalk column:

I left a law library career to become a romance writer. I joined the Romance Writers of America (5206 FM 1960 West, Suite 208, Houston, TX 77069; [713] 440-6885). The guild's magazine and annual conferences helped me meet other writers and keep up with the market needs and trends. The \$35 annual fee (plus a one-time filing fee of \$15) also includes membership in any of the 86 local chapters.

JANICE BOIES
Eden Prairie, Minnesota

SEND US YOUR HOME-OFFICE QUESTIONS

Send your questions on home business, moonlighting, telecommuting, or any other income-producing work to consultant Joanne H. Pratt, c/o ShopTalk, HOME-OFFICE COMPUTING, 730 Broadway, New York, NY 10003. Because of the volume of mail received, not all questions can be answered. Ms. Pratt regrets that she cannot give personal replies except through her consulting firm, Joanne H. Pratt Associates, P.O. Box 190647, Dallas, TX 75219. ■



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Gain a Competitive Edge with Tips from the Experts

BY PAUL & SARAH EDWARDS



To gain and keep a competitive edge, today's independent businessperson must continually find ways to make working from home easier and more efficient.

In this column each month, we will offer tips to help you meet that challenge.

We'll tell you about books, tapes, products, research findings, and advice from leading entrepreneurs, celebrities, and experts. You'll find inspiration, encouragement, and information to help you get started, manage your time, keep going, and get more done with less effort and greater rewards—both psychic and financial.

The Healthy Entrepreneur. If you're among the approximately 9 million Americans who are taking charge of their lives by operating home-based businesses or you're thinking about doing it, you're on the road to good health. Recent scientific research suggests that self-employment and high job satisfaction are good for you.

Lawrence Hinkle and his colleagues at New York Hospital Cornell Medical Center found that the more satisfied people were with their work, the fewer illnesses they had. And as noted in *Who Gets Sick?* (Jeremy P. Tarcher, 1988), University of California at Berkeley researcher Rena Pasick says that the freedom to work at your own pace and to make other decisions about your work has a stronger influence on your health than does the stress of the work itself.

Make a Newsletter Your Low-Cost Marketing Strategy. To develop a steady stream of business, successful entrepreneurs keep their services or products ever present in the minds of their clients and customers. One of the best ways to stay in regular communication is with a newsletter.

Howard L. Shenson, publisher of *The Professional Consultant and Seminar Business Report*, points out that too often business brochures end up in the wastebasket

unread, but a newsletter is more likely to be read, filed, and remembered.

A newsletter establishes you as an expert. It provides you with credibility and enables you to make sales points again and again through appealing feature stories and news briefs. The estimated 40,000 different newsletters published each month are evidence of how popular this form of communication has become.

Although publishing a newsletter does require an investment of your time and money, desktop publishing makes the out-



"We're persistent because we believe in what we're doing, not because of the financial results."

—BILL GATES

of-pocket expense lower than that of most other forms of promotion (we use and like Ashton-Tate's *ByLine*). And more important, you will increase the chances that your message will be read and remembered.

Business Tips from Microsoft's Bill Gates. Bill Gates, co-founder of Microsoft, the world's largest independent microcomputer software company, is one of the country's youngest self-made billionaires. When we interviewed him at a Los Angeles Macintosh Users Group meeting last spring, he told us, "It's amazing the number of people who have home businesses. The personal computer has been a real boon to that, helping people keep track of their businesses without a staff. For us, the home-business market . . . is almost as big as the small-business market."

Here's Gates's advice on running a successful business: "It's very important to have a vision of your business doing something unique that doesn't just duplicate what

other people are out there doing. I'd say persistence is very important. We were totally committed from the beginning and everything we've done has taken many years. People have doubts when it looks like the business is not going to take off. Business has ups and downs, but so what? We're persistent because we believe in what we're doing, not because of the financial results. Financial results can send short-term signals that can confuse you."

Use a Telephone Headset to Make Note Taking Easy. If you spend much of your day on the telephone—and most home businesspeople do—you know how clumsy it is to enter notes into a keyboard while talking on the phone. And if you try cradling the phone between your ear and your shoulder, you may develop a crick in your neck.

A telephone headset offers hands-free operation. You can use your computer, take handwritten notes, reach for something, or—to add vivaciousness to your conversation—gesture as if you were talking to your caller face-to-face.

Until recently, telephone headsets have been relatively expensive. But now, Plantronics, maker of the headsets used by AT&T operators, has developed a new line of low-cost headsets.

We have the SP4 model and find it comfortable and practical. It has automatic redial, a mute-hold switch, and a volume-control switch. Our callers tell us the sound quality is excellent. The list price is only \$90; other models begin at \$60.

Productivity Music. To keep yourself working well, try playing productivity music in the background while you work. Environmental-sound pioneer Steven Halpern has created an album called *Enhancing Productivity* to help you relax your way to peak performance. The album combines the sounds of nature with electronic melodies and such subliminal messages as, "You have the power and the ability and the desire to perform at your personal best. You are a high performer. You are a winner."

Whether the subliminal messages actually work or not, the music is so relaxing and so energizing that working while it plays is a treat. You can write for Steven Halpern's catalog: Sound RX, P.O. Box 2644, San Anselmo, CA 94060.

Heard Recently (Attributed to Mark Twain): "The key to success is to make your vocation your vacation." ■

PAUL & SARAH EDWARDS are the authors of *Working from Home, Everything You Need to Know to Live and Work Under One Roof* (Jeremy P. Tarcher, 1988) and the new audiobook *How to Succeed at Working from Home* (TDM/McGraw-Hill). They co-host the radio program "Wake Up to Success!" in Los Angeles. You can contact them on the *Working from Home Forum (GO WORK)*, which they operate on CompuServe.

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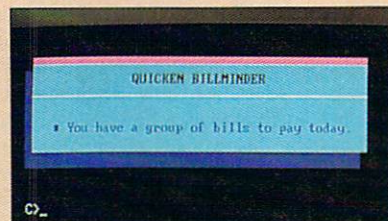
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Where to Find Answers to Your Business Questions

BY JOANNE H. PRATT

There you are, alone in your home office with no attorney, financial officer, or business consultant down the hall to rely on when business or technical problems need solving. But as the owner of a home-based business, you don't have to feel out of touch. Five important sources of help are as close as your telephone or mailbox: newsletters, on-line forums, books, associations (many include regular newsletters as part of the membership fee), and good old Uncle Sam. Although several of these resources have similar features, each has its own flavor, and you may want to sample or subscribe to more than one.

If you take advantage of the resources available to you, the advice and encouragement you gain can give you and your business a lift. Whether you need a consultant, more clients, or contact with colleagues, we hope you'll be able to use these listings as starting points for building your own information and support networks.

SELECTED BOOKS

(Available in bookstores or directly from the publisher. Prices listed do not include shipping charges.)

Electronic Cottage Handbook, by Lis Fleming. P.O. Box 1738, Davis, CA 95617-1738; 1987; 57 pp.; \$6.

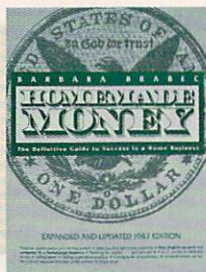
Newly revised, this book describes the top 10 computerized home businesses. It outlines skills required, potential clients, possible earnings, cost of operation, and services you may need from outside sources.

Home-Office Tax Deductions, by Thomas Vickman. Enterprise Publishing, 725 Market Street, Wilmington, DE 19801; 1988; (800) 533-2665; 65 pp.; \$20.

An easy-to-follow guide to the tax deductions you can take for your home office, plus advice on documenting and backing your claims.

Homemade Money, by Barbara Brabec. Betterway Publications, P.O. Box 219, Cro-

zet, VA 22932; (804) 823-5661; 1987; 304 pp.; \$15.



A comprehensive guide to starting and running a home business. Endorsed by the Small Business Administration (SBA).

Home Offices and Workspaces, by the editors of Sunset Books and *Sunset Magazine*. Lane Publishing Co., 80 Willow Road, Menlo Park, CA 94025; (415) 321-3600; 1986; 96 pp.; \$7.



Includes large, full-color photos of workspaces and office setups; advice on choosing space-saving furniture, shelving, and equipment; plus pictures and plans for furniture you can build yourself.

How to Make Your Home-based Business Grow, by Valerie Bohigian. New American Library, New York, NY 10019; (212) 397-8000; 1984; 246 pp.; \$4.

Down-to-earth, helpful tips on setting up your home base. Includes practical advice on earning bigger profits from the products or services you offer, through such methods as advertising, bartering, and direct mail.

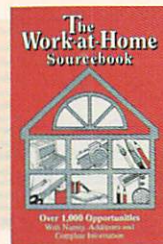
Ideas That Work: Ten of Today's Most Exciting and Profitable Self-Employment Opportunities, by Susan Elliott. Live Oak Publications, P.O. Box 2193, Boulder, CO 80306; (303) 530-1087; 1985; 176 pp.; \$10.

An interesting read; describes the origins and secrets of success of 10 home-based service businesses.

Word-Processing Profits at Home, by Peggy Glenn. Aames-Allen Publishing, 1106 Main St., Huntington Beach, CA 92648; 1983; (714) 536-4926; 210 pp.; \$15 by mail; \$16 in bookstores.

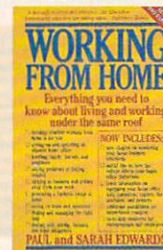
A comprehensive handbook covering virtually every aspect of running a home-based word-processing business. Recommended by the SBA.

Work-at-Home Sourcebook, by Lynie Arden. Live Oak Publications, 6003 N. 51st St., #105, P.O. Box 2193, Boulder, CO 80306; (303) 530-1087; 1988; 219 pp.; \$13.



A comprehensive listing of companies and people who hire homeworkers. Illustrated with interesting charts and photographs.

Working from Home, by Paul and Sarah Edwards. Jeremy P. Tarcher, 9110 Sunset Blvd., Los Angeles, CA 90069; (213) 273-3274; 1987; 436 pp.; \$13.



A wealth of information on setting up and operating an efficient home office. Includes useful tips on how to decide if working from home is up your alley, how to select the best software and hardware, how to establish a professional image, and nearly everything else you'll need to know about living and working under the same roof.

GENERAL INFORMATION SOURCEBOOKS

Information USA, by Matthew Lesko. Viking Penguin Inc., 40 W. 23rd St., New

JOANNE H. PRATT is an independent small-business consultant and a contributing editor for HOME-OFFICE COMPUTING. She writes a monthly column, *ShopTalk*, for the magazine.

Q: What's the perfect program for running your small business?

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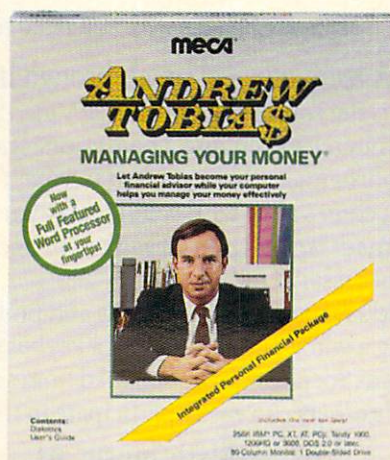
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- Accounts Receivable
- Balance Sheet
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355 Riverside Avenue
Westport, Connecticut 06880



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Then there are word games where kids can name the objects, learn spelling, even play Hangman, Word Search and Word Scramble.

A technological breakthrough in teaching.

Socrates is the complete Educational Video System, for ages 5 and up, that can turn your television into a one-to-one learning and fun center.

You simply connect the main unit to your TV antenna input, and your TV screen comes alive with colorful animation that guides your child through math, spelling, word games, art and music. No other equipment is necessary.

Your child's responses to questions and problems appear on the TV screen by using a wireless remote control keyboard.

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with Socrates. Not only will they see an array of animated learning aids on the TV screen, with 256-color capability, they can also hear the encouraging voice of Socrates with the optional voice cartridge.

In all, there are more than ninety involving programs that will advance your child's thinking at his or her own pace. Math activities include step-by-step tutoring, challenging math quizzes and math games for two.

Then there are word games where kids can name the objects, learn spelling, even play Hangman, Word Search and Word Scramble.



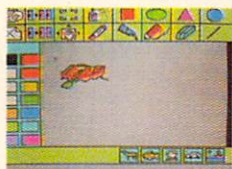
lessons in public schools.

The Socrates Super-Painter lets kids create their own computer generated drawings. And when kids tune in to the musical games, they'll find ten pre-programmed songs to play along with. Or, they can program notes to create their own songs.

Quite simply, education has never been more fun. Or is it that fun has never been more educational?

Adding to the system is child's play.

Expanding your Socrates system is as easy as inserting a new cartridge. Other subjects include higher-level math programs, word programs and action games.



Super-Painter.



Spelling.



Music.

Socrates can also teach preschoolers numbers, letters, shapes and colors with an easy-to-use Touch Pad tablet.

And if that isn't enough, add the optional remote Mouse system. It's an ideal introduction to Computer Aided Drawing (CAD) systems, including four drawing modes from architecture to fashion. As an added feature, you can even store and playback drawings on a VCR unit. With Socrates, the learning and the fun will grow with your child.

Another school of thought.

Socrates can stimulate your child's mind, build your child's confidence and help make your child a better student. Because when it comes to Educational Video Systems, it's in a class by itself.

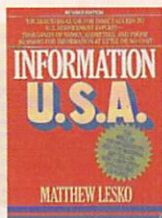
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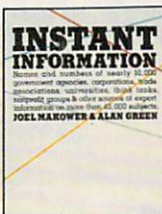
Helping children learn one-to-one.

York, NY 10010; (212) 337-5200; 1983, revised 1986; 1,253 pp.; \$23.



A candy store for information seekers. Lists thousands of publications (many free), government offices, financial services, and databases that can be rich sources of business leads and information.

Instant Information, by Joel Makower and Alan Green. Prentice Hall Press, One Gulf + Western Plaza, New York, NY 10023; (212) 373-8500; 1987; 705 pp.; \$20.



Provides addresses and short descriptions of trade associations, universities, and sources of information on practically any subject. You'll find organizations as obscure as the Steel Door Institute and as useful as the National Association for the Cottage Industry.

THE GOVERNMENT AND OTHER INSTITUTIONS

Better Business Bureau (BBB)
Council of Better Business Bureaus, Inc.
1515 Wilson Blvd.
Arlington, VA 22209
(703) 276-0100

The Better Business Bureau, a national non-profit organization, monitors the reputation and complaint record of vendors and other businesses with which you may be dealing and will give information over the telephone. The Bureau records complaints and mediates such disputes as those about unsatisfactory product performance or delivery of services. Check your telephone directory for a local bureau or contact the headquarters office (see above).

SELECTED PUBLICATIONS

Cellular Phones; Commercial Credit; Going Out of Business Sales; Health Insurance; Mail-Order Marketing; Multi-level Marketing; Work At Home Schemes; Sales Contracts; Selecting a Franchise; Selecting a

Stockbroker; and Tips on Tax Deductions (\$1 each).

Call your local BBB for a complete list and an order form. To order the booklets above, enclose payment and a self-addressed, \$.58 stamped envelope for each and mail to the above address.

Chambers of Commerce

United States Chambers of Commerce
1615 H Street NW
Washington, DC 20062
(202) 659-6000

As non-profit organizations, Chambers of Commerce across the country monitor legislation and other matters relating to private enterprise, concentrating on such areas as agriculture, education, energy, consumer affairs, technology, and transportation. The Chambers provide slide presentations, periodicals, books, telephone referrals, and other services for small businesses and corporations. Consult the telephone directory for your local chapter or contact the national headquarters office (above).

SELECTED PUBLICATIONS AND MEDIA

BizNet (a telecommunications service for business-related information); *Business and the Entrepreneurial American City*; *Business Counsel*; *Financial Management Handbook*; *How to Manage Risks and Control Your Insurance Costs*; *How to Sell to the Federal Government*; *Nation's Business*; *Risk Management*; *Services Watch*.

Prices for books and periodicals are lower for Chamber members. For a complete list of publications and prices, an order form, and information about other media provided by the Chambers of Commerce, contact your local chapter, the national office, or call (202) 463-5690.

Internal Revenue Service (IRS)

Taxpayer Information and Education Branch
Taxpayer Service Division
Internal Revenue Service
Department of the Treasury
1111 Constitution Avenue NW
Washington, DC 20274
(800) 424-1040

The IRS offers a number of services, including workshops, films, and publications to help clarify tax responsibilities of small-business and home-office operators. For a list of services offered, contact your local IRS branch office.

SELECTED FREE PUBLICATIONS

Recordkeeping for a Small Business (Publication 583); *Business Use of Your Home* (Publication 587); *A Tax Guide for Small Businesses* (Publication 334); *A Guide to Free Tax Services* (Publication 910).

For questions about these free publications and other IRS services, call (800) 424-1040. To order, call (800) 424-3676.

Small Business Administration (SBA)

Office of Public Affairs
Small Business Administration
1441 L Street NW, Washington, DC 20416
(202) 653-6832



The Small Business Administration, a traditional ally of small business, offers a range of services, including loans, technical and financial advice, and computer consulting services. Check the blue pages in your telephone directory under U.S. Government: Small Business Administration or contact the SBA at the above address.

SELECTED PUBLICATIONS

Going Into Business (MA 2.025; \$.50); *Feasibility Checklist for Starting Your Own Business* (MA 2.026; \$1); *The Business Plan for Home-Based Business* (MA 2.028; \$1); *Research Your Market* (MA 4.019; \$1). To order, send a check or money order to the U.S. Small Business Administration, P.O. Box 15434, Fort Worth, TX 76119. To order with MasterCard or VISA, call (202) 783-3238.

Starting and Managing a Business from Your Home, Starting and Managing Series, Vol. 102. (Stock #: 045-000-00232-2, \$1.75). A guide to help prospective entrepreneurs look before leaping. To order, send a check or money order to the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402. To order with MasterCard or VISA, call (202) 783-3238.

ON-LINE INFORMATION SERVICES

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John Dvorak, *PC Magazine*

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Leonard Hyre, *PCM Magazine*

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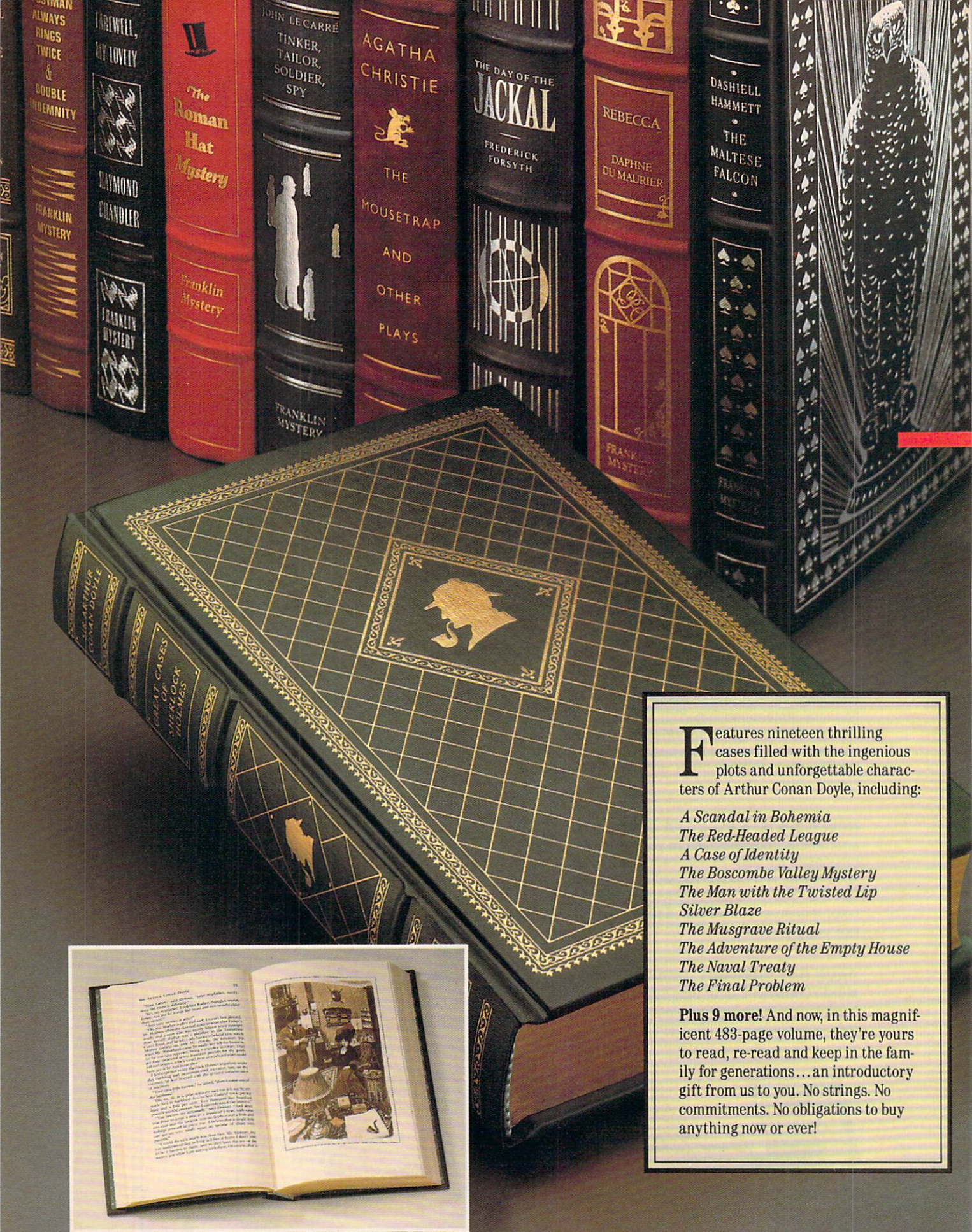
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Working-From-Home Forum

The CompuServe Information Service
(800) 848-8199
(614) 457-0802 (from Ohio or outside the U.S.)
CONNECT CHARGES: \$6/hour at 300 baud, \$12.50/hour at 1200 or 2400 baud; all times
CompuServe's Working-From-Home Forum is a fruitful place for on-line chats and for exchanging business tips with other users. Its electronic mailboxes are convenient places to leave messages for sysops and requests for information. The 12 sections on the forum include Business Opportunities; Business Talk; Home-Office Computing; Jobs at Home; Matters Technical; The Association of Electronic Cottagers; and "Word" Businesses (*word processing*).

ASSOCIATIONS



American Home Business Association

Julian Cohen, Chairman
397 Post Road
Darien, CT 06820
(800) 433-6361

FOUNDED: 1984
MEMBERSHIP: over 20,000
MEMBERSHIP COST: \$55/year
(includes newsletter)
NEWSLETTER: *Home BusinessLine*
LAUNCHED: 1987
FREQUENCY: Monthly
ADVERTISING: None
SAMPLE COPY: Free

Through the American Home Business Association, you can buy copiers, telephones, and other office equipment at about 45 percent off the retail price. The association also offers health insurance at group rates and holds seminars. In tone, *Home BusinessLine* seems more like a corporate financial advisor than an informative neighbor.

Through its newsletter and popular Hot Line Advisory Service (*see toll-free number, above*), the association also provides detailed information to members on such topics as advertising, business expansion, computers, financing, insurance, record keeping, taxes, time management, and zoning regulations. The staff is sometimes able

to answer Hot Line questions on the telephone, but most answers are returned by overnight express mail.

Mothers' Home Business Network (MHBN)

Georganne Fiumara, Director
P.O. Box 423, Dept. H
East Meadow, NY 11554
(516) 997-7394

FOUNDED: 1984
MEMBERSHIP: 3,000
MEMBERSHIP FEE: \$21
(includes newsletter)
NEWSLETTER: *Homeworking Mothers*
FREQUENCY: Quarterly
ADVERTISING: Yes
SAMPLE COPY: \$2 plus self-addressed, stamped envelope with \$.56 postage

Joining the Mothers' Home Business Network can pay off: A recent one-line mention of a member's home-based business in a national magazine story by Georganne Fiumara, MHBN's founder, generated 500 inquiries and more than \$350,000 in sales; a subsequent article in the association's newsletter, *Homeworking Mothers*, produced another 60.

Members receive a copy of the *Mothers' Money Making Manual*; four free advertisements in the newsletter; an annual directory of members; and the "Mothers' Mail Pack."

Homeworking Mothers has upbeat copy and a visually appealing layout that support its "be professional" theme. It is written for mothers who want to work and develop careers without leaving their homes and children, say the editors. A pull-out section of classified ads is a likely place to find telephone colleagues for support and exchange of ideas, as well as business opportunities and publications.

National Association of Home Based Businesses (NAHBB)

Cynthia Brower, Regional Director
Headquarters Group, Region I
P.O. Box 30220
Baltimore, MD 21270
(301) 363-3698

FOUNDED: 1984
MEMBERSHIP: 500
MEMBERSHIP FEE: \$65-\$350/year, depending on type of home-based business; \$500-\$2,000/year for marketplace, or storefront, businesses (includes newsletter).
NEWSLETTER: *The NAHBB News*
FREQUENCY: Quarterly
ADVERTISING: None
SAMPLE COPY: None available

Covering nine regions across the country, the National Association of Home Based Businesses is open to individuals who own and operate home-based businesses, as well as to professional consultants and providers

of support services. The NAHBB tracks developments in home-business laws and regulations and conducts seminars and training sessions, including the Business Expo, an extended workshop where members can test out and get feedback on business ideas and methods before investing time and money in the real marketplace. The *NAHBB News* offers general business news and regional chapter events.

The NAHBB also publishes *The Home-Based Business Newspaper* (circulation 2,000), a separate publication available to members at an annual subscription rate of \$12.95 and to non-members at \$14.95. A recent issue included a day-care business profile, listings of business opportunities and workshops, updates on small-business laws and regulations, and a small-business start-up fund authorized by Congress.

National Association for the Self-Employed (NASE)

Don Picard, Editor
2316 Gravel Rd.
Ft. Worth, TX 76118
(817) 589-2475
(800) 433-8004

FOUNDED: 1981
MEMBERSHIP: 115,000
MEMBERSHIP COST: \$48/year
(includes newsletter)
NEWSLETTER: *Small Business America*
FREQUENCY: Bimonthly
ADVERTISING: None
SAMPLE COPY: Free

The National Association for the Self-Employed offers a range of advice on operating a small business on "Shop Talk 800," a toll-free line (*see above*).

The NASE publishes *Small Business America*, which reports on new legislation, franchising, health tips, and employee training, among other topics. Notices remind members of discounts offered by NASE on such services as prescription drugs, health insurance, and air travel.

Service Corps of Retired Executives (S.C.O.R.E.)

National S.C.O.R.E. Office
1129 20th Street NW, Suite 410
Washington, DC 20036
(202) 653-6279

FOUNDED: 1964
MEMBERSHIP: 224,000
MEMBERSHIP FEE: Free by application
(includes newsletter); funded by SBA.
NEWSLETTER: *The Savant*
FREQUENCY: Monthly
ADVERTISING: None
SAMPLE COPY: Free

S.C.O.R.E.'s 13,000 retired executives, volunteers all, meet with members at 700 locations around the United States to share

their expertise on business operations such as advertising, growth strategies, production, and taxes. Consult your directory for a local chapter, or contact the main office (see preceding page).

The Savant, geared primarily toward S.C.O.R.E. members, offers chapter activities of national relevance. Recent and upcoming features include how to obtain government contracts, S.C.O.R.E. member profiles, and general business information.

The New Families Work Options Network

NextStep Publications
Charlie and Jan Fletcher, Editors
P.O. Box 41108
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FOUNDED: 1987
MEMBERSHIP: 270
MEMBERSHIP FEE: \$16/year
(includes newsletter)
NEWSLETTER: *The Home-Business Advisor*
FREQUENCY: Bimonthly
ADVERTISING: None
SAMPLE COPY: \$1

NextStep and its publication, *The Home-Business Advisor*, serve a specific group of people who work from home: parents. A visually appealing, well-designed publication, its mission is to help parents succeed in their endeavors as it advises them on the gentle art of working at home around children. Although business and motivational features resemble those published in other home-business newsletters, here you will find a solid array of articles that recognize the unique problems of homeworking parents. In a recent issue: tips on working alone; working with children; diversification; specialization; work as play; shoestring marketing; legal fees; and free publicity.

NEWSLETTERS

Challenges

Marcia E. Riley-Harper, Editor
P.O. Box 22432
Kansas City, MO 64113-2432
(816) 363-6544

LAUNCHED: 1988
CIRCULATION: 250
SUBSCRIPTION COST: Free
FREQUENCY: Bimonthly
ADVERTISING: Yes
SAMPLE COPY: Free

Challenges is a small regional newsletter with national aspirations, written in a friendly, non-technical, down-to-earth style. Geared toward businesses in their first five years of operation, *Challenges* reports on taxes, legal matters, success stories, and financial news.

Home-Business News

Edwin and Sonja Simpson, Editors
12221 Beaver Pike
Jackson, OH 45640
(614) 988-2331

LAUNCHED: 1986
CIRCULATION: 1,500
SUBSCRIPTION COST: \$18
FREQUENCY: Bimonthly
ADVERTISING: Yes
SAMPLE COPY: \$2

Home-Business News arrives at your door (or on your newsstand) like a friendly neighbor carrying a homey potpourri of business advice and personal encouragement. Similar to the *National Home Business Report* (below).

A recent issue exploded with an announcement for "Hot Moneymaking Ideas," and you'll always find plenty of full-page "rush me my money-back guaranteed, how-to-do-it" ads.

National Home-Business Report

Barbara Brabec, Editor
P.O. Box 2137-F
Naperville, IL 60566
(312) 355-7953

LAUNCHED: 1981
CIRCULATION: 2,000
SUBSCRIPTION COST: \$18
FREQUENCY: Quarterly
ADVERTISING: Yes
SAMPLE COPY: \$4

The *National Home-Business Report* is chock-full of good information; a recent 30-page issue featured "Tips for Home-based Working Mothers," "Marketing Notes," "Computer Talk," and "Developing and Maintaining a Business Mailing List." One of the best publications in the field.

The Worksteader News

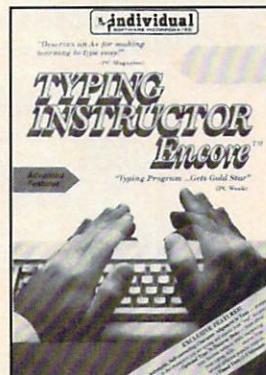
Lynie Arden, Editor
2396 Coolidge Way
Rancho Cordova, CA 95670
(916) 635-8764

LAUNCHED: 1984
CIRCULATION: 6,000
SUBSCRIPTION FEE: \$24
FREQUENCY: Bimonthly
ADVERTISING: None
SAMPLE COPY: \$1

Worksteader News is a gold mine of information for both the home entrepreneur and the telecommuter who would rather work for someone else. Job hunters will appreciate the thumbnail sketches of businesses across the country that hire homeworkers (a computer is a big asset). Those computer owners who enjoyed the Association of Electronic Cottagers' former newsletter will find it revitalized as a section of *Worksteader News*. ■

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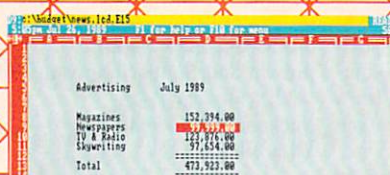
POP-UP THREE DIMENSIONAL SPREADSHEET



Aggregate expenses for all departments for July 1989:

Advertising	152,294.00
Administrative	925,792.00
Operations	5287,142.00
Manufacturing	5629,571.00
Research and Development	2120,804.00
Total expenses	11,800,595.00


Fig. 1 Let's get the detail on those ad costs. Just move the widebar to that cell and press one key (Grey +).



Advertising July 1989

Magazines	152,294.00
Newspapers	123,875.00
TV & Radio	97,574.00
Skywriting	473,523.00
Total	473,523.00

Fig. 3 We want more detail, so let's go to Newspapers. Just press the Grey + key.



Advertising July 1989

Magazines	152,294.00
Newspapers	99,999.00
TV & Radio	123,875.00
Skywriting	97,574.00
Total	473,523.00

Fig. 2 Here we are, instantly. Notice the lower left corner showing we are on level 2. You can go down or up.



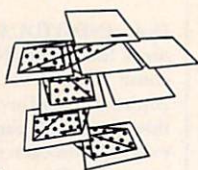
Advertising July 1989

Magazines	152,294.00
Newspapers	99,999.00
TV & Radio	123,875.00
Skywriting	97,574.00
Total	473,523.00

Fig. 4 Now, instantly we are on level 3. Each level is a different spreadsheet. You could now move to the New York Times and see the detail on that figure. There is no limit to the levels you can go. Move right down to transaction level if you like.

Everyman's Spreadsheet

User testing of Lucid produces the same results over and over. People tell us they would never work without Lucid 3-D™ again. Even folks continuing to work with 1-2-3.



POP-UP

That's because the idea of a memory resident spreadsheet makes sense, one that you can pop-up instantly while working in your word processor or any other program. Lucid lets you cut anything on the screen and paste it right into Lucid, or cut anything from a Lucid worksheet and paste into the application below. You can even run Lucid on top of 1-2-3 if you like.

Lucid 3-D™ was developed over the past two years with countless, exhaustive hours of planning and programming to produce something spectacular. This is a product that works the way we dreamed a spreadsheet would function.

Steve Morgernstern, reviewing it in Family and Home Office Computing, rated Lucid 3-D™ excellent, saying "It does things the others simply can't do—and does them with enough slickness and style to make it a winning choice." You'll see, Lucid is exciting.

WHAT MAKES LUCID 3-D™ SO SPECIAL

In the screen examples you can see Lucid is really three dimensional. Any cell of the spreadsheet can contain a complete other spreadsheet that you can access with a single keystroke. It is as simple as the pictures show. And you don't have to write formulas to do it.

All you do is look at the other file, navigating through easy, point and shoot directories. When you come back up (with one key) the link is made automatically for you.

Everything about Lucid works that way. Users say, "It is so intuitive that I really don't need a manual."

MASTERWORK



WINNER OF
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AWARD FOR
TECHNICAL EXCELLENCE

We could go on at great length about all the features and innovations in Lucid, but Lucid is more than a bag of features. What is most important is the pride and craftsmanship that went into its creation. It is a masterwork. The overall feel is tight and polished. In fact Paul Somerson, editorial director of PC Computing, used one word to describe it—"Slick."

CIRCLE READER SERVICE 49

"I've been calling it an 'Everyman's Spreadsheet', and I think that's how the market will position it. It's much more than an inexpensive alternative to 1-2-3."

Jim Seymour, Columnist
PC Magazine, PC Week

Even if you don't plan to abandon 1-2-3, Lucid makes sense. Files are converted between them with ease so there's not an interoffice compatibility problem. This means you can have the power and fun of Lucid 3-D™ without having to upset your present systems.



Lucid 3-D

HomeOffice COMPUTING

The New American Dream: Working On Your Own

As part of this anniversary issue, HOME-OFFICE COMPUTING presents a special report on independent workstyles. In the next 29 pages, you will find:

- Facts and figures on who's working at home and why, with data from Link Resources' newly released 1988 National Work-at-Home Survey (page 38).
- An exclusive interview with futurist Alvin Toffler, who popularized the electronic-cottage concept in his 1980 book, *The Third Wave* (page 39).
- Seventeen profiles of successful entrepreneurs, telecommuters, and moonlighters, who describe why they changed their lives and how technology helped (page 41).
- Checklists for Success—a compilation of “to-do” lists that cover the fundamentals for starting and running a home-based business (page 65).

Home and Office Worlds Merge

BY NICK SULLIVAN

Two once separate worlds—home and office—are fusing. As lifestyles turn into workstyles, and vice versa, long-held notions about work and the makeup of the family unit are changing. This magazine, celebrating its fifth anniversary this month, is also changing—to capture that new energy and put it on paper.

"We're in the midst of a fundamental change," says Alvin Toffler, who invented the notion of the electronic cottage in his 1980 book, *The Third Wave*. "You see more kinds of technology, more family arrangements, more kinds of work."

Angled attics, extra bedrooms, and plant-filled sun-rooms are the new offices on Main Street, U.S.A. More than 24 million people now say they do some income-producing work at home, 6 million of them full-time. Tip-offs: Federal Express and UPS trucks get stuck behind school buses in what were once bedroom communities; phone calls get taken by answering machines; or squealing fax machines.

"Well over 2 million people started working at home in the last year," says Tom Miller, who headed the 1988 National Work-at-Home Survey, conducted by Link Resources, a New York-based market-research firm. "This dramatic increase—more than twice as many new homeworkers as the year before—clearly illustrates the powerful appeal of home-based workstyles. And for every person who works at home, surveys show that two more would like to try it."

The benefits of working at home are clear: People can get more work done; they can spend more time with their children or care for them during the day; they can avoid nasty commutes; and they can pursue their own projects.

"People are strategically figuring out how to get out of the rat race," says Faith Popcorn, head of BrainReserve Inc., a New York-based firm that analyzes trends for consumer-products companies. "They are cashing out and moving from high-stress corporate jobs to 'dream' jobs."

The stories that follow (starting on page 41) illustrate the diverse group of professionals who are adopting independent workstyles. A woman leaves a \$50,000-a-year job with the world's largest securities firm to start her own consulting firm from a small apartment. The director of a 40-employee company does 95 percent of his work

white-collar workers outnumbered blue-collar workers for the first time, the American Dream was to work for a big corporation. You'd establish a suburban home life totally separate from the workplace.

In the 1980s, the American Dream is to venture out on your own—as an entrepreneur, an independent contractor, or a corporate employee with an electronic persona. You work near home or at home but aren't tied to it. You are remote but connected. Your work is national or international; your life, local.

DREAM MACHINES

The widespread acceptance of computers and computer-related technology is obviously the single driving force behind the increase in work-at-home activity. For \$5,000 to \$10,000—less than the cost of a four-door station wagon—an individual can assemble virtually the same production and communications tools as those that are used in big companies.

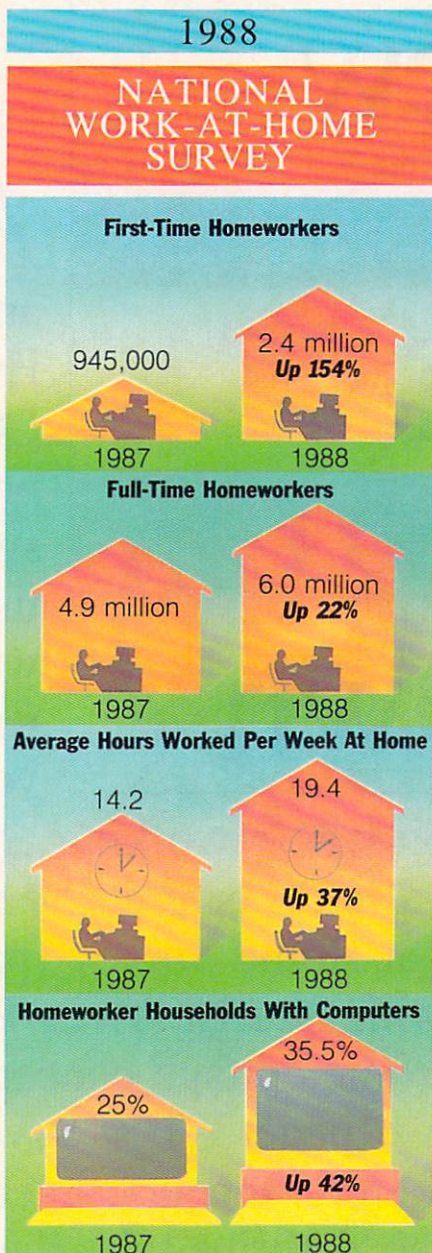
More than 35 percent of all homeworkers now own computers, compared to 25 percent in last year's National Work-at-Home Survey. More impressive, however, is the fact that nearly 60 percent of self-employed professionals own computers.

In addition, homeworkers are buying modems, facsimile machines, copiers, feature telephones, and answering machines at a rapid pace. Four of these five products are dependent on the telephone, which is why so many full-time homeworkers have more than one phone line. "Separate telephone lines are the key to a successful home office," says Sam Redman (*see profile*), co-director of the computer firm Personal Computer Support Group, some of whose employees work in home offices.

NO HOME IS AN ISLAND

A few years back, working at home seemed implausible to most people, especially executives, because they envisioned themselves as being cut off, taken "out of the loop." Home was the preserve of creative types—freelance writers and artists—or data-entry clerks.

But as work becomes increasingly information dependent and the people who process that information rely more on computers, a greater flexibility in work arrangements is natural. Computers can be used anywhere and connected to other com-



Source: Link Resources, Inc., New York, New York

from a home office. What motivates these and other newly independent business-people?

NATIONAL WORK, LOCAL LIFE

Dreams change. In the 1920s, the American Dream was to hold down a good job at a good wage. You'd live in the city or town where you worked. In the 1950s, when

puters around the world. Fax machine can talk to fax machine, regardless of brand, and transmit signed, legal documents. "The electronic office makes this all possible," says Ash Jain, who started a publishing business from his home last year (*see profile*). "I can reach anyone, anywhere, anytime."

Steve McGowan, a marine consultant in Dartmouth, Massachusetts, can receive a bid from a boatyard in Holland, sign onto a database to retrieve an up-to-date currency exchange rate, then fax the proposal to his client in New Zealand. Diane Simpson, a consultant on Japanese culture, regularly faxes materials to and receives faxes from Japan—all done from her New York City apartment. Jack Dennard, a medical-equipment consultant, takes international exchange a step further and hosts Indonesian clients at his beautiful home office near the Blue Ridge Mountains of North Carolina. Read how they do it in the following profiles.

THE NEW INDEPENDENTS

None of this electronic activity is particularly startling—how quickly we adapt!—but what does mystify envious outsiders is how these people engineered their situations.

The stories vary—but the key word here is "engineer." No *deus ex machina* set up these people in business or presented them with a role model to follow. They forced a change—often a dramatic one—in their approach to work and sculpted their own role models.

Corporate workers are attuned to getting a job and being handed assignments. Independents create their jobs—often jobs that never existed before—and assign themselves tasks. They take a skill, hobby, or interest and turn it into a business. Following the old adage, they make their avocation their vocation.

Transforming yourself from an employee to an independent requires a leap of faith. You have to see long-term benefits (a Japanese notion!) because you stand to give up a lot: salary, benefits, vacations, and, not least, social contact.

Not surprisingly, the people who forsake corporate comforts are self-confident and self-motivated. They are, for the most part, in their 30s and 40s, part of the generation that revolted against authority in the 1960s. They saw then that their actions could produce positive results and are now willing to take another risk. At an age when they should be entering the prime of their ca-

reers, they escape—without dropping out—to make their prime time their own time.

SELF-PROMOTION

The corner office was once the carrot; the company car was the perk. Now it's the home office and the freedom not to drive. As the external symbols of success have changed, so have the internal measurements, the ones that in the end determine whether or not a person is fulfilled and happy.

For these new independents, the key measure of success is how well they integrate their family or personal life with their work. How can you be "successful" if you can't run your life? Beyond that, the term that independents use again and again is *control*. How can you be "successful" if you have no control over where, when, or how you work? Money ranks relatively low on the totem pole, the question being, "Can I make enough money to make this work?"

As the saying goes, the proof is in the pudding. The independents profiled here are happy—content and energized by their experiences. They have no intention of returning to corporate life. They feel that they have been promoted.

In fact, they've promoted themselves. ■

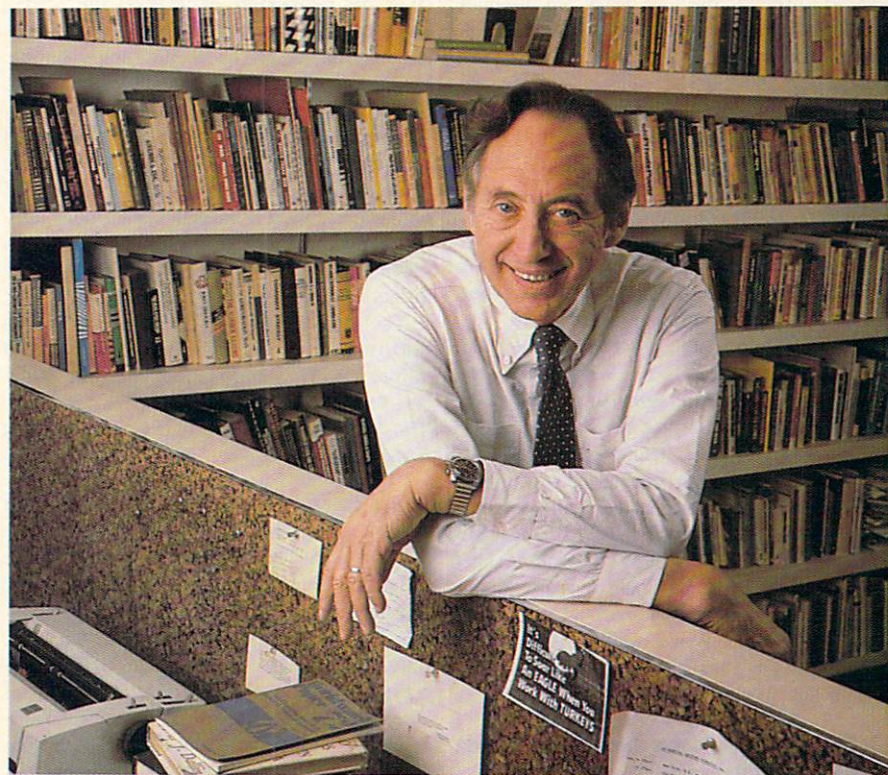
ALVIN TOFFLER

Workstyles of the Future

Alvin Toffler—author of *Future Shock* (1970) and *The Third Wave* (1980)—foresaw that technology would make remote and independent work possible and place a "new emphasis on home as the center of society." The 59-year-old author, whose books have been translated into 30 languages and whose ideas have cut across social, political, and economic boundaries, has achieved international influence as a social critic and commentator. He and Heidi, his wife and collaborator, have visited with heads of state in the United States, Soviet Union, Japan, Belgium, Canada, and Australia.

In *The Third Wave*, Toffler describes three revolutions that have shaped the social structure of the world: the First Wave, 10,000 years ago, when hunters settled in villages; the Second Wave, when the Industrial Revolution rolled across Europe and the United States; and the Third Wave, which began in the United States in the mid-50s, when society and communications produced by the Industrial Revolution began to break up, creating a "demassified" and "differentiated" social structure.

With these ideas as a platform, HOME-OFFICE COMPUTING asked this respected



Alvin Toffler thinks that dormant bedroom communities will come back to life.

futurist to comment on today's and tomorrow's work-at-home lifestyle.

Q: What's the main impetus for the home-work trend—to be independent, to be close to one's family, or what?

A: To avoid the hateful, costly, and unproductive commute. It's a move to flexibility. Working at home frees you from the 9-to-5 regimen, puts you in contact with your family, and permits you to get work done.

Someone should do a study on how anti-productive offices are. In my speeches I tell a story about a person who spends three weeks at the office trying to get a job done, then takes it home and does it in a week. That story gets a predictable response every time—murmurs and laughs of confirmation. Everyone knows it's true.

Q: Do you see people who run home businesses buying new houses with separate work entrances or building new houses to specifically accommodate the business?

A: Oh, there's lots of that. I know several people who fit that description. One, an investment advisor who lives in a nice house in California, has a second house behind it. Several people work there with him.

And living over the store is a wonderful tradition. I've been reading about old man Matsushita, who started Matsushita, the big Japanese electronics firm. He started out living over the store.

Q: With millions of people working at home, what effect do you see on family relations or on our society in general?

A: Today a lot of our social activity now is geared to the factory and office, an offshoot of the Industrial Age. If you're working at home, you have to find social contact somewhere else.

But, people often had warmer relations before the Industrial Age, through their community and church or whatever. I think we will begin to see new kinds of social attractors in the communities.

Q: You remind me of Jane Jacobs, who wrote *The Life and Death of Great American Cities*, talking about the corner grocery store.

A: Yes, of course, the grocery store is more than a place to get food. With new social attractors, one can imagine the great graveyard of suburbia coming back to life.

The key to the electronic-cottage system is that it permits an enormous variety of relationships, both social and work-related. The Second Wave system of factories and offices requires uniformity. Everyone gets up at the same time, goes to work at the same time, and comes back at the same time. The Third Wave system of the electronic cottage encourages different ways of living and working.

Q: Do you think some people are having trouble understanding this concept?

A: Yes, because they have a simplistic

Watching masses of peasants scything a field 300 years ago, only a madman would have dreamed that the time would soon come when the fields would be depopulated, when people would crowd into urban factories to earn their daily bread. And only a madman would have been right. Today it takes an act of courage to suggest that our biggest factories and office towers may, within our lifetimes, stand half empty, reduced to use as ghostly warehouses or converted into living space. Yet this is precisely what the new mode of production makes possible: a return to the cottage industry on a new, higher, electronic basis, and with it a new emphasis on the home as the center of society.

—ALVIN TOFFLER
The Third Wave, 1980

model of the electronic cottage in their heads. Some people try to imagine a company with 10,000 employees suddenly sending them all home, and all 10,000 of them getting up at 9 a.m. and jamming the switchboard. That seems unrealistic to people because it is.

The reality is that we're seeing a great variety of arrangements—three days a week at home and two in the office, three weeks in the office and one at home, and so on. Companies themselves need greater flexibility because the people they depend on are better educated and more individualistic, and more women with kids are working.

Q: Is the baby-boom generation the driving force behind the work-at-home trend?

A: Yes; but after the demographic bubble goes away, the social change will continue. There's a fundamental change going on. The system is—for lack of a better term I'll use jargon—*differentiating*. There are more products and models. You see more kinds of technology, more kinds of work, more family arrangements, more communications channels. At every level of society, there's an enormous wave of differentiation.

The baby boom is the first generation born into an America in which blue-collar workers were outnumbered by white-collar and service workers. That happened in 1956. The baby boom is the first post-proletariat generation.

Q: Are there similar work-at-home trends in Europe and Japan?

A: Yes, in fits and starts, the work-at-home trend is shaping up and being shaped by the different cultural circumstances. In Japan, which has prided itself on homogeneity, the question is: Can you permit enough heterogeneity to allow entrepreneurs to function? The younger generation in Japan is so different from the adults that it's referred to as a "new species." Work at home is difficult because homes are still small. But

that will change when Japan's land price bubble is punctured.

Q: There are more than 500,000 copies of *The Third Wave* in China; why is the book so popular there?

A: The Chinese are clearly interested in the implications of *The Third Wave* for their economic strategies. Should they follow traditional industrialization patterns—build steel mills, for example? Or should they try to leap a stage, from First Wave to Third Wave, from the rice paddy, as it were, to satellites?

Q: Is the trend toward working at home happening faster or slower than you expected it would 10 years ago?

A: Things are happening today about as one might have expected, but a number of factors are necessary to accelerate the movement. The next big jump will likely occur when enterprising people set up facilitator firms. These are little consulting firms, where one person takes a contract for a given project and coordinates people to work jointly and remotely.

The day will come when an entrepreneur walks into a major insurance company and says, "You've got 18 people doing invoices. Why don't I take 10 out of here, facilitate the process, and bring the work back to you?" That kind of process will save big bureaucratic companies money.

Or we may see a group of workers (as a group) agree to decouple from the firm and take over an entire function.

Q: Would these workers continue to receive corporate benefits?

A: That would be worked out, case by case. How companies treat their employees has to be watched very carefully. The electronic sweatshop has to be guarded against. Some employers try to operate in the Computer Age as they would have in the Steam Engine or Textile Age. They are trying to turn corporate employees into drones. This dehumanizes the individual, dehumanizes a company's relationship with its customers, and devalues technology. Employers who treat employees as appendages to technology are wasting their money.

Q: Are there other pitfalls to be aware of?

A: Since writing *The Third Wave*, I've become cautious in some areas. For instance, working at home—by yourself or with your family—is one thing. The moment you add an outside person, say for secretarial help, there's a radical change. It amounts to an invasion of privacy and can create a very unpleasant dynamic.

Q: I can't wait to see your new book. *The Third Wave* was incredibly prophetic.

A: Thank you. I should say that my wife, Heidi, is my collaborator and intellectual partner and responsible for much of the book. I'm just sorry we didn't put her name on it. ■

High-Tech Shangri-La



“Technology has more than compensated for my physical distance from San Francisco.”

SNAPSHOT

Michael Stein, marketing consultant

RESIDENCE: Ross, California

BUSINESS: Research & Planning for Business

EQUIPMENT: IBM PC AT with a 20MB hard drive, Hayes-compatible 1200 baud modem, IBM PC XT, Tandy Model 100 portable, NEC Spin-Writer 3515 printer, Epson FX-100 printer, Hewlett-Packard ThinkJet printer, Mita DC-111C copy machine, Panasonic 2-line answering machine, 8 phones (one portable)

SOFTWARE: Lotus 1-2-3, PC File, PC Outline, ProComm, MIST, WordStar, Quicken

RX FOR SUCCESS: Accounting and filing software. “Together, these programs take care of things that otherwise would be nuisances lurking in the background.”

All people fantasize at one time or another about the perfect work venue. Last November, Michael Stein packed up his home and his office and moved out of downtown San Francisco to the lush vegetation and serenity of Marin County, 20 minutes north of the city, via the Golden Gate Bridge. To judge by the breathtaking view from his home-office window, you'd think you were in Shangri-La.

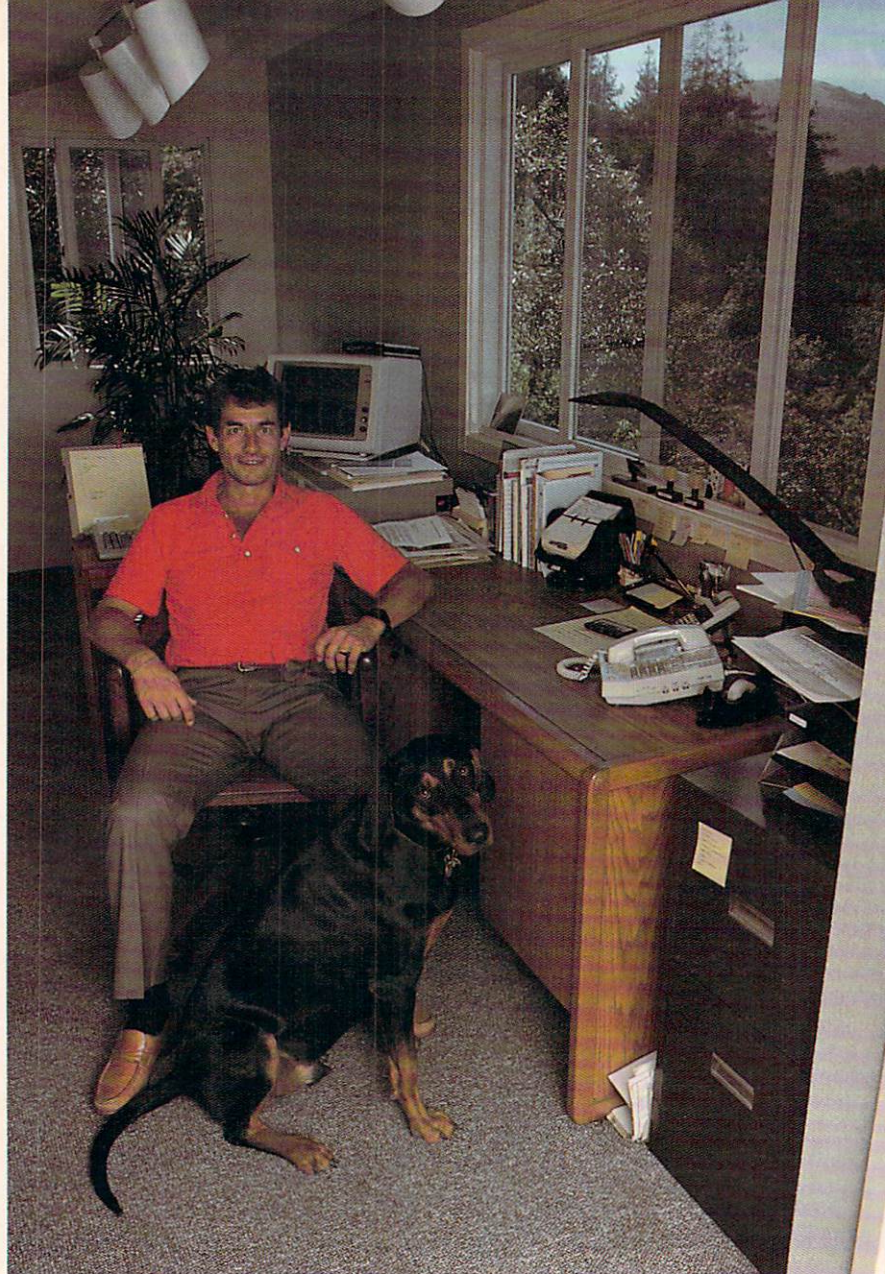
“I felt constrained by office hours and by the city,” says Stein. “Besides, clients rarely came to the office. I took one look at this place in the hills and couldn't pass up the opportunity.”

Stein, 51, has been mostly self-employed since he graduated with a business degree from the University of Pennsylvania's well-

known Wharton School in 1959. In 1964, he left Hunt Foods as director of marketing research and founded his current business—Research & Planning for Business—a consulting firm specializing in research and strategic planning in marketing, communications, and customer relations.

Research & Planning for Business works with various clients identifying markets and developing high-technology products and services. Clients include such companies as AT&T, Pacific Bell, New Vector Communications, Southern California Edison, Security Pacific National Bank, Southland Corporation, and Fujitsu.

“We work with clients to probe the *whys* of human behavior through consumer and employee focus groups, in-depth executive interviews, and other qualitative, small-



Michael Stein has devoted a wing of his Marin County house to office space.

scale surveys," says Stein. "And we use these research tools to assess the needs of staff and managers for improved communications, increased productivity, and greater job satisfaction."

Working at home was a radical idea in the 1960s, but Stein did just that until the mid-70s, when in order to try to separate his home life from his office life, he established a regular office in downtown San Francisco. During the next few years, Stein had several offices at home and in other locations.

After marrying in 1984, Stein went through a nomad-like period, moving his office from one room in his home to another, then into an adjoining garden apartment. Shortly thereafter, he moved the office out of his home again. Then, once in Marin County, he made minor renovations to the wing of the house that is now devoted to office space. According to Stein, reaching his present level of comfort with computer

technology was what allowed him to move to his relatively remote location.

"I like clients who have computers and modems because it makes them much easier to access," says Stein. "By the same token, I encourage my clients to take full advantage of their extended access to me because of my home-office circumstance."

Although ensconced in sylvan surroundings away from the city, Stein does not feel isolated from his business associates and clients. Stein works with an array of electronic equipment, both for processing and for communicating. He communicates with his associates (including one on the East Coast) and clients not only by telephone, but also by means of an electronic messaging and conferencing system.

Powered by an IBM PC AT and a 1200-baud modem in Stein's office, the messaging system uses *ProComm* communications software and *MIST* electronic-mail software.

Operating 24 hours a day, the system is open to Stein's associates and clients. Client access is regulated by password, so proprietary information is protected.

"The system allows us to leave specific messages for individual clients and associates," Stein says. "One of the beauties of the system is that my close associate, Claude Whitmyer, and I can leave memos or reports for each other. He's a night person, and I prefer to get up early and work. Often, I'll check for messages first thing in the morning and find late-night work from Claude. We are in the process of looking into purchasing a voice-mail system on a stand-alone computer."

Stein prefers the electronic-mail system to fax machines because the latter will not translate data to disk. "If all you need to do is look at something, a fax machine is the answer, but if you want to modify the document, the computer is better," he says.

In 1985, Stein hired Whitmyer, 40, as a consultant. "At that time, my business was growing rapidly, and I found my Apple would not communicate with my clients' IBMs. Claude helped me to become much more productive through the use of computers, so I was able to absorb the increases in business without expanding my staff commensurately," says Stein.

In contrast to Stein's spacious surroundings out in the country, a "railroad" apartment perched on Petrero Hill in San Francisco is where Whitmyer works. Though his office occupies one long, narrow room in the similarly shaped apartment, Whitmyer scrupulously maintains 10 separate departments: auditing, bookkeeping, operations, budgeting, continuing education, long-range planning, quality control, record keeping, marketing, and outside relations. Low-tech, but high-efficiency, fiberboard file boxes, metal wire baskets, racks, and shelving help him keep things well organized in the crowded office space.

Whitmyer and Stein combine efforts on their ambitious marketing program, which includes mailing company literature and a regular newsletter to clients and prospects, listing their company in a local marketing research trade newsletter, and hosting special events. Heretofore, the newsletter has been composed on an IBM PC and then designed and produced on a Macintosh. "The next newsletter will be done entirely on an IBM," says Whitmyer.

Stein uses four separate phone lines in his house: one is for a dedicated electronic-mail system, two for the business (one for outgoing calls and one for incoming), and one for residential calls. Two of the phones are multilines, and two others are attached to a Radio Shack two-line controller, which allows one phone to pick up calls from two lines.

"I'm more productive than I ever was," Stein says. "Technology has more than compensated for my physical distance from San Francisco."

—TIM HAZEN

PHOTOGRAPH BY KIM FRAZER

A Woman Builds Her Own Place in a Man's World

SNAPSHOT

Marie Caldwell, painting contractor

RESIDENCE: Easton, Massachusetts

BUSINESS: Caldwell Coatings Corp., an exterior-interior painting business serving the construction industry.

EQUIPMENT: IBM PS/2 Model 50, IBM Pro-Printer

SOFTWARE: PFS: Professional Write, Lotus 1-2-3, Yardi Construction Management, Yardi Accounting Management

RX FOR SUCCESS: A computer consultant. "I didn't have the time to learn computers; I was too busy running my business."

After seven years with a construction company, Marie Caldwell, 40, of Easton, Massachusetts, felt that she'd earned a raise. While her boss agreed, he said that there wasn't enough money. But as comptroller in charge of a \$20 million budget, she knew better.

So instead of getting mad, she got even. She left the company in 1982, set up a home office, and founded Caldwell Coatings Corp., an exterior-interior painting firm serving the construction industry. Today, after six years in business, Marie employs a staff of 15 and turns a healthy profit fulfilling contracts with private developers and municipalities in Massachusetts and Rhode Island.

"When I told my boss that I was going to start my own contracting business, he said, 'You're a black woman, and black women in construction don't make it.' I said, 'OK, fine,' and I quit. Everybody thought I was out of my mind, including the man I was married to at the time. Looking back, I was naive to think that I would be accepted in the business, but with all the negatives I was forced to be positive."

Caldwell's positive mind-set was fueled by drive, determination, courage, and a sharp mind—attributes common among successful entrepreneurs. But the battle has been uphill all the way. "This business is dominated by men, and I haven't been greeted with open arms. Even though I have a reputation for excellence, I'm still a woman and a minority. Contracting is a tight-knit

"I wasn't being allowed into the mainstream, and it came as a big shock."



Marie Caldwell, painting contractor, quit her job over a salary dispute and started her own firm.

buddy system and very political. There are contractors who won't work with me and minority men who think I'm taking their work. I've been called every name in the book, threatened, had my tires slashed, and told to stay off jobs. But this is what I like to do, and I'm good at it. Nobody has the right to tell me where my place is."

The trial-by-fire began six years ago when Marie contacted paint suppliers and asked for credit. She had already determined that of the 16 construction trades, painting would be the "easiest" in that there would be fewer legal battles if something went wrong and less money to front for materials. But only Dexter Brothers Paint and Sherwin-Williams Paint—which recently award-

ed her an all-expenses-paid vacation to Miami as a bonus for buying a huge volume each month—extended credit.

Meanwhile, she combed the Yellow Pages and mailed letters of introduction to dozens of general contractors. As a result of follow-up calls, she was invited to bid on work with three firms. But the opportunity was lost when contractors asked for her certification. As a woman and a minority, she was required to be certified by the State Office of Minority and Women Business Assistance (SOMBA) before performing work on projects assisted by state and federal funds. "The law says that minorities are to have 5 to 10 percent of these contracts and women another 5 percent," Marie ex-

plains. "And without SOMBA certification, I couldn't work on high rises, where the real money is. But SOMBA wouldn't certify me because I had no ongoing work, even though I had \$500,000 worth of work lined up. It's a catch-22. So I ended up scrounging around for private work. I wasn't being allowed into the mainstream, and it came as a big shock."

Undaunted, Marie hired a male project manager to help her put together a painting crew. "There was no way I could draw them [men] in as well as a man could," she said. "My manager talked with the men and asked them how they'd feel about working for a woman. When the response was good, I took over and conducted the interviews. Now I'm part accountant, part psychologist, and part actress. I visit each job site twice a week and I smile a lot at my workers. But I don't talk to them. I only deal with my supervisors and project managers. If I find a wall that's a mess, I pull the supervisor aside and tell him to handle the problem. Worker criticism comes from a man."

Marie reached another crossroads as her business grew. Unable to handle the growing mounds of paperwork and accounting by hand, she either could have hired office help or performed the work herself with a computer. She opted for the latter. "I wanted to stay in control, and I knew that a computer would make my life easier," she said. "But I was computer dumb; I knew absolutely nothing."

When Marie purchased an IBM PS/2 Model 50 and installed it in her home office last year, she only knew how to switch it on. "I read the books but I didn't even understand what it meant to 'boot the system,'" she laughs. "So I asked a friend who has a degree in computer science to teach me. I flew her up here every weekend for two months until I had input my accounts and felt comfortable on my own. And my youngest son helped, too; he has a Tandy Color Computer and understands the basics."

Within two months Marie was using Lotus 1-2-3 for inventory, accounting, and

competitive speculations on jobs, and customizing form letters with *PFS: Professional Write*. But she insisted on a program that met her needs as a contractor. "I have a degree in accounting, but I wanted something geared for contracting, and that's different," she says. "So I bugged my salesperson until he found *Yardi Construction Management* and *Yardi Accounting Management* (Yardi Co.). They're perfect."

With a strong foothold in the business, Marie has since received SOMBA certification. She's also expanding and intends to join ranks with general contractors. "I want to control the flow of money and have subcontractors working for me," she says. "I'm looking into a 15-acre parcel in Rhode Island where I'd like to build 25 to 35 condos. I already have investors—the first two were men. And I don't hold that against them!"

"I'm proud of what I've accomplished. Contracting is a game of hope, wish, and luck, but it's the only business I want to be in."

—BARBARA STEIN

This Boss Spends 95 Percent of His Time At Home

SNAPSHOT

Sam Redman, co-director of Personal Computer Support Group (PCSG) Inc.

RESIDENCE: Dallas, Texas

BUSINESS: PCSG, a 40-employee computer hardware and software company

EQUIPMENT: IDS Breakthru 286, IBM PS/2 Model 30, Zenith 181 laptop, Everex modem, Omnifax facsimile machine, Canon PC-25 copier, Hewlett-Packard LaserJet printer, Panasonic two-line cordless phone, Radio Shack cellular telephone

SOFTWARE: Lucid 3-D, ProComm, WordPerfect

ELECTRONIC MAIL: MCI Mail

RX FOR SUCCESS: A facsimile machine. "The fax machine is the most important invention in the evolution of the home office. It lets people know you're legitimate."

Wow, how 'bout those Cow-boys?"

Sam Redman deadpans the phrase, but to him it's the kind of idle chitchat that characterizes the American workplace. Forget that new rallying cry, "productivity." Chatter, coffee klatches, and aggravations are the order of

the day in most offices, even for those who genuinely want to be productive.

And Redman genuinely wants to be productive. So he's arranged to work at home. And since he happens to be the co-director of Personal Computer Support Group Inc. (PCSG), a 40-person firm, he has arranged for some employees to work at home, too.

"There's no comparison with people who work in offices and people who work at home. When done correctly, working at home is many times more productive," says Redman, who says he spends a stunning 95 percent of his working hours at his home office. "By the time most people fight that traffic and get to work, they feel like they've already accomplished something."

The bottom line, Redman thinks, is good mental health and burnout avoidance. "You can cater to your own idiosyncrasies. You can play your favorite music at any volume and wear Bermuda shorts if you want."

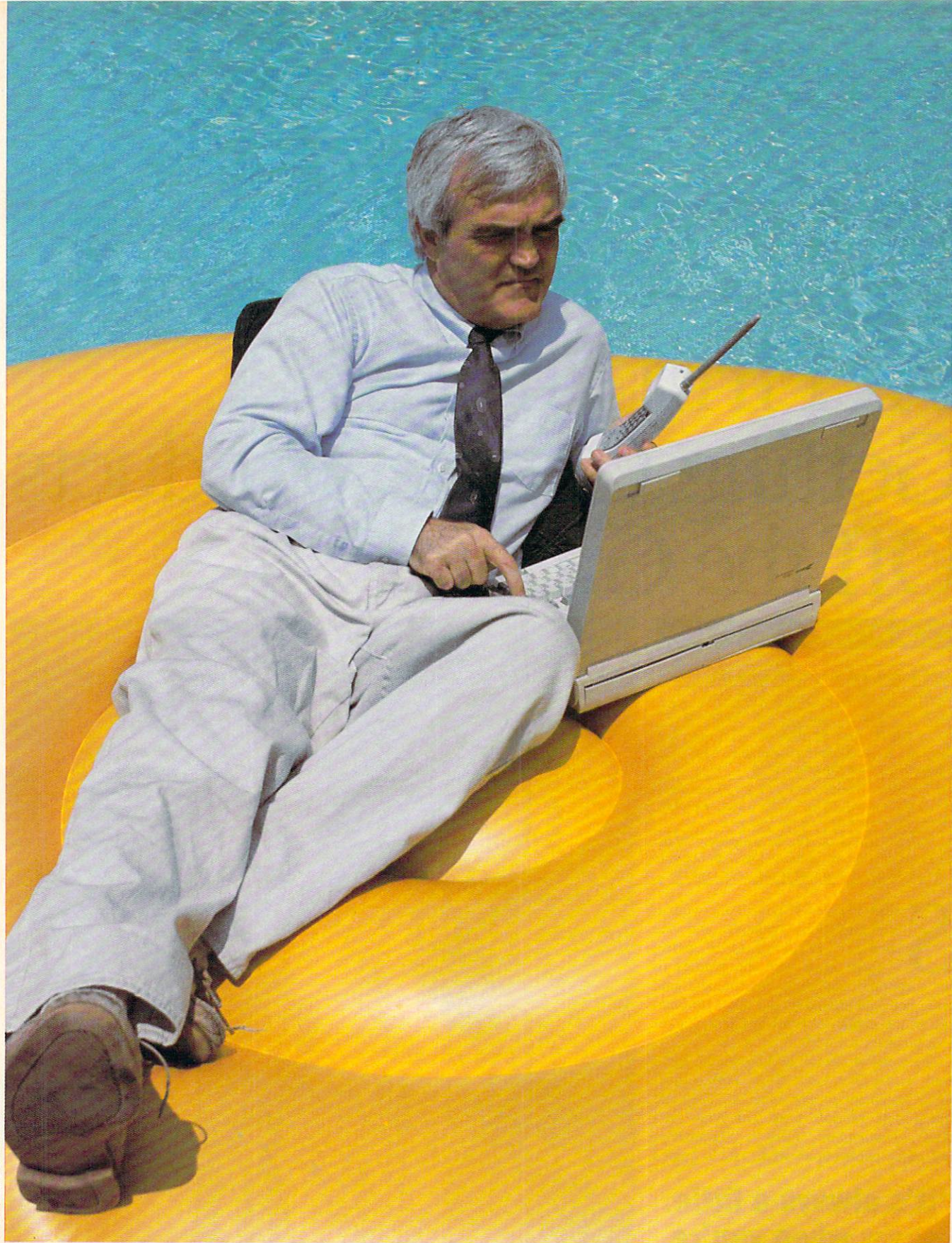
Redman, a former research chemist with NCR Corporation and founder of two industrial chemical firms, established PCSG in Dallas five years ago with partner Mike Stanford. The firm has since come out with more than 20 microcomputer products, both

hardware and software, and is probably best known for its *Lucid 3-D* spreadsheet package.

Starting out, Redman and Stanford were just two guys renting office space. "We used secretaries who worked from their homes, and I saw how effective they were," Redman recalls. "Later, when we grew and added a normal staff, we weren't achieving the efficiencies we had in the early stages. I wanted to recreate that early magic. I saw that part of the magic had come from using home-office workers, so I started experimenting."

Since then, Redman has set up two home offices for himself. The first was carved out of his garage; the second was a room in a big old house that had previously been a home workshop—"a home office from another era," he says.

Redman has also been involved in setting up about a dozen home offices for PCSG employees, mostly programmers—including one in California, one in Pennsylvania, and one in West Germany. Being creative types, programmers work odd hours. "It's bad for the morale of the others in the office to see the programmers drifting in and out when



**“You can cater to your own idiosyncrasies.
You can play your favorite music, at any volume, and wear
Bermuda shorts if you want.”**

they feel like it, and it's inconvenient for a programmer with a hot idea to have to come into the office," says Stanford. There was only one failure—someone who seemed to be asleep every time he was called. He was moved back to the office.

Today, eight PCSG employees (in addition to the co-owners) do office-related work from their homes, and a ninth does light electronic assembly at home. Redman, of course, has an office at PCSG headquarters, but he's rarely there.

PCSG's home-office workers use mo-

dem's to send each other program files. The only standardization Redman has tried to introduce is the use of *ProComm* communications software. Redman likes it because it offers a "host" mode, meaning the computer can be left unattended, and anyone can call in and transmit data files. Documents are sent by fax machines. Though Redman and Stanford communicate via MCI Mail, they prefer the telephone. "If we had only electronic mail and then the telephone was invented, it'd be the real breakthrough," says Redman, who has a wide range of

feature phones. "Separate telephone lines are the key in the home office."

All the home offices in Dallas also have phones that are actually extensions of PCSG's switchboard, so callers don't know that the person they've reached is not in the "real" office.

"All in all, we've been able to recapture our original magic and entrepreneurial spirit—I can be up and calling people in Europe at 7 a.m. Who in an office can be calling at 7 a.m.? But that's part of the whole magic of it all." —LAMONT WOOD

PR Firm Flies By Getting Clients' Products Off the Ground

SNAPSHOT

Susan Parker, public-relations specialist

RESIDENCE: Roslyn Heights, New York

BUSINESS: Market Makers Public Relations

EQUIPMENT: IBM PC, CompuAdd Turbo, Star Micronics NX1000 dot-matrix printer, NEC 3550 printer, Hayes Smartmodem 1200

SOFTWARE: WordPerfect, PFS: Professional File, Professional Write, Relay Gold, PC Anywhere, Tony Stewart's Home Office

RX FOR SUCCESS: A reliable computer. "Without a computer in my business, I wouldn't be able to do anything. It also makes me more creative."

Susan Parker, 48, is a one-woman public-relations dynamo, and she loves it. After years of being bogged down with the politics of the corporate marketing environment and being bounced around by the fluctuating nature of the public-relations business, Parker is in business for herself.

The walls of Market Makers Public Relations, at her Glen Cove, New York, office, are a testament to her success. They are dotted with reprints from *The New York Times*, *Datamation*, *Forbes*, newsletters, and other publications where she's gained

"It's always a little scary when you're doing everything by yourself, but it's energizing."



media attention for her hi-tech clientele. "I knew I could be much more productive working for myself," says Parker unabashedly. "My claim to fame is that I stay on top of things."

Her stints as public-relations manager for Decision Resources (now a part of Ashton-Tate), publishers of a series of wildly successful graphics packages, and for Creative Output, producers of computer systems for manufacturing companies, helped her obtain the broad background she felt was required to venture out on her own. "The smaller the company, the greater the variety of the things you do, so I've had great training," reminisces Parker. "I've written applications stories, created documents and brochures, handled marketing, produced slide shows, and even designed a trade-show booth."

After more than eight years of experience marketing and publicizing hi-tech products, Parker knows the cyclical nature of the business. "The companies I worked for kept going in and out of business, and their demands for public relations were constantly changing," recalls Parker. "Now, I can help get a product off the ground and put all my energy into doing that, and then when they don't need me anymore I'm not out of a job, and they're not wasting money."

Market Makers Public Relations began as a home business more than two years ago. In addition to her home office, Parker now shares space in a Glen Cove, New York, office with Computer Basics, a PC training firm. Her office is close to home, but the benefits of having a separate space are significant. "One reason for moving out of my home was just plain space," says Parker. The second reason was psychological. "I'm one of those people who likes to get dressed and get out in the morning. I like coming to an office with other people. My kids are

grown up, and I have little time for friendships because I am so busy, but I enjoy coming in and talking to other people."

Still another important benefit of the shared space has been shared resources. Market Makers Public Relations shares a facsimile machine, a copy machine, and a receptionist with Computer Basics.

While Parker's office provides the space and accoutrements she needs, the bulk of the brainwork still is done in her Roslyn, New York, home office. By the time she drives to the Glen Cove office at 10 a.m., Parker has already tackled the trade magazines. In the evening, she drafts press releases and correspondence on her computer at home. Parker admits that it can be muddling to have your work in two places and on two different computers, but feels the juggling has been worth it.

Parker says she spends 10 to 15 hours a month (using *PFS: Professional File*) just making sure her database of contacts is current. She uses her modem and either *Relay Gold* or *PC Anywhere*, two communications programs, to transmit information to a client site or to her Connecticut associate. Recently, she incorporated one of her client's products, *Tony Stewart's Home Office*, designed to help freelancers handle billing and invoicing, as part of her office repertoire.

Parker tackled the start-up phase of her business with careful planning. Looking back, she believes that two of the smartest things she did were to take a course on time design in order to better track and schedule and to have adequate start-up funds. "Make sure you have money enough to start your business," cautions Parker. "I needed \$10,000 to start my business. I put some in the bank so I could draw a salary and spent the rest on good equipment. There's nothing gained when you skimp on equipment and material costs."

She discovered her first clients, New England Software, makers of a graphics program called *Graph-in-the-Box*, through an ad for the company's software. She sold New England Software on her strong graphics background and the fact that, at that time, she lived nearby. When she moved to Long Island, she conducted a carefully researched mailing to local hi-tech companies. Her efforts landed her two new clients. Now the ball is rolling by word of mouth.

"One of the hardest things is learning how to charge for your services," says Parker. In retrospect, Parker admits that in the beginning she often charged the correct fee, but gave her clients unrealistic projections about what they could expect from her efforts. Today, she gives each client a formal public-relations plan in which she promises to deliver a certain number of press releases and application stories and a certain amount of exposure for her fee, but makes no guarantees.

Forming strategic associations helps Parker do what she might not be able to do alone. She works with a communications and advertising firm when her clients need to develop promotional brochures or literature. "I've found it's smarter to let people who do nothing but advertising take care of those aspects. It's always a little scary when you're doing everything by yourself, but it's energizing," says Parker.

"There's great satisfaction in dealing directly with your clients. Now, I deal with the presidents and vice presidents of companies, not the marketing departments. On the other hand, there are no benefits, no retirement plans, no health insurance, and no unions. You need to be very motivated. No one's paying you to take a few days off. There's also a lot of tension and responsibility. My clients pay good money for me to deliver what I promised." —ROBIN RASKIN

Sales Rep, Wired to Sell

SNAPSHOT

Steven Hoge, Sales representative

RESIDENCE: Chapel Hill, North Carolina

BUSINESS: Sales representative for W. W. Norton & Co., publisher of college textbooks

EQUIPMENT: At home: Compaq DESKPRO with 20MB hard card; Hayes Smartmodem 2400, NEC Spinwriter printer; On the road: Zenith 181 laptop, Worldport Portable 1200-baud modem, Centronics GLPP II Portable printer

SOFTWARE: Lotus 1-2-3, WordStar Professional 4.0, Norton Textra Write with On-Line Handbook, Alpha 3, Norton Utilities, Xtree, Fastback, Qmodem, ProComm, Smartcom II; BBS-PC

RX FOR SUCCESS: A 2400-baud modem. "It allows me to be in two or three places at once, including the office in New York City."

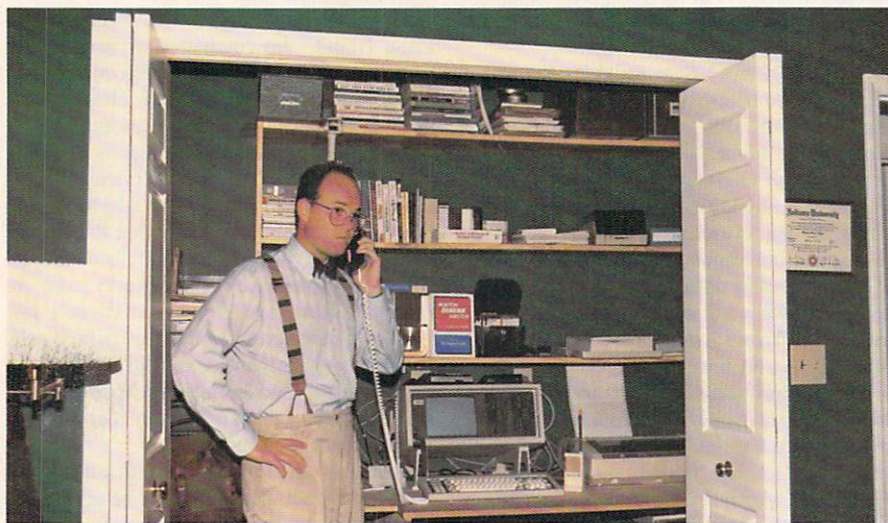
In the thick of the college-textbook sales season, Steven Hoge, 37, spends a good many days dashing from one campus to another across North Carolina and southern Virginia, convincing professors from Duke to the University of North Carolina to the College of William and Mary to adopt W. W. Norton books (remember that thick *Norton Anthology* in English 101?) for their courses.

But whether he's on the road with his Zenith portable or at the Compaq Deskpro in the Colonial-style home he and his wife built on four forested acres near Chapel Hill, Hoge is never more than a quick connect via bulletin board away from his employer in New York City.

"The technology allows me to stay in touch with the main office daily, even though it's 1,000 miles away, and that's essential to a rep's success at Norton," Hoge says. Norton's bulletin-board system, which Hoge helped design in 1986 and now operates from his home, pipes him and other reps with computers straight into data at the Manhattan office. (Norton provides Zenith 181s, modems, and software to reps who turn in reasonable cost-benefit proposals.)

On-line, reps can order book samples, upload information on new publishing projects, professors, academic trends, or courses, and download reviews and strategic marketing information. The system contributes to the flow of information intended to

"I try to leave my work in the office, instead of the kitchen, family room, or living room."



Steven Hoge helped design a bulletin-board system at W.W. Norton to sell the company's textbooks.

keep Norton a step ahead of such competition as St. Martin's Press or a giant publisher such as McGraw Hill, which has a vast sales network to promote its books.

"It's not enough just to recite a table of contents in a field this competitive," says Hoge. "We really have to know our books and the academic fields they cover so that the professors remember us."

With the bulletin-board system, his home office, and his traveling computer, Hoge feels his productivity has soared. "I'm much more efficient about managing the paperwork. It's allowed me to concentrate on knowing the books I am selling. And I actually haven't used my paper filing cabinet in four years."

Unlike reps with larger territories, Hoge

is home nearly every night with his wife, Paula, and their 5-month-old son, Duncan. In the summer, when professors have already made decisions on course material and left campus, field sales reps like Hoge spend less time dashing around. "It's a great job to have, especially now that Duncan is around. During the summer when my campus work slows down, I am home doing prep work for the coming school year or working on improvements for the bulletin board." Although the combination of work and child care lengthens his day, Hoge feels the benefits outweigh the burdens. "This way, I can take care of Duncan and get to know him while he's still a baby. Since Paula's a real-estate agent, summer is her busy time, and I'm home more."

'Mother,' which is how the Norton reps refer to the bulletin board system, has definitely caught the attention of the New York management, who view the provision of computers as sales-enhancement tools for field reps. As Norton's college division director, Jim Jordan, put it: "We envisioned the computers as kind of a mobile office, but reps like Steve have surprised us. He has taken computerization to lengths that suit his needs at home, too."

"But there's a flip side to this coin," Hoge cautioned. "Since I've caught the computer 'bug,' I'm especially susceptible to spending more time working. For my family's sake, I do try to leave my work in the office, instead of in the family room, kitchen, or dining room."

—CHARLOTTE PIERCE

Computer Executive Follows the Dreams of His Youth

SNAPSHOT

Ash Jain, computer industry analyst

RESIDENCE: Irvine, California

BUSINESS: Irvine Resource Group, publisher of Apple Market Reports, a 10-times-a-year newsletter

EQUIPMENT: Two Macintosh SEs, Apple 1200-baud modem, Sharp UX-140 facsimile machine, LaserWriter printer, ImageWriter Printer

SOFTWARE: Reflex-Plus, Excel, MacWrite, PageMaker, SuperPaint, PowerPoint, Microphone, Desktop Express, HyperCard

ELECTRONIC MAIL: MCI Mail

RX FOR SUCCESS: A separate workspace. "Having a dedicated room in my home is important in switching to the office mode."

Ash Jain started an electronics magazine in his native India in 1968. Three years later, succumbing to wanderlust, he sold the publication and came to visit the United States. "Like Marco Polo, I wanted to see the world," says Jain. "My father thought I was 'nuts' to give up a good situation, and my wife wasn't sure."

Jain, 42, and his wife, Savita, now live in the United States. The plan to work and travel their way around the world and back to India halted in Irvine, California.

Over the years, Jain has held a series of jobs in the electronics and computer industries, most recently as vice president of the

Apple product division at AST Research Inc. But a year and a half ago, Jain left AST to start his own business, publishing an industry newsletter called *Apple Market Reports*. In many ways, he is returning to the dreams of youth.

"As a boy in India, I always wanted to be a war correspondent like Ernest Hemingway," says Jain. The computer industry is hardly war, but it is competitive, and Jain will be reporting on it and analyzing it for the generals who make decisions at development companies. And, of course, Jain is back on his own, as he was when he started out 20 years ago. "I can't take all that corporate stuff," says Jain. "I never could."



"I don't expect or want a \$100-million business. I want the responsibility of running my own show and the satisfaction of making it work."

But I proved to myself that I could do it, and I gained the business experience. I don't expect or want a \$100-million business. I want the responsibility of running my own show and the satisfaction of making it work."

The new lifestyle apparently appeals to Jain, because when we saw him last spring his feet were only marginally touching the ground. "I'm very, very relaxed; I can't tell you how happy I am! I take 20-mile bike rides with Savita and I discovered that my son was 12 years old. Last time I looked, he was a baby."

Jain is making the jump now because the electronic office is a reality. "Everyone's in

their places, and I can reach them all via MCI Mail or fax," says Jain. The weekend after he left AST, he tore out a closet in his home to make a larger office. However, when his publication first rolls off the presses this month, Jain expects to move out of his house into commercial office space.

Apple Market Reports, which costs subscribers \$185 for 10 issues, is aimed at third-party Apple developers, investment bankers, industry analysts, and other Macintosh aficionados. Jain also expects to prepare custom reports on special request (at additional charge) and provide a telephone hotline to give subscribers access to data (for free) from his *HyperCard* stacks.

Jain's business is a true offshoot of the information age. "Each newsletter will be composed of information—hardware and software news, company information, advertising, and marketing statistics—that already exists," says Jain. "I'm just pulling it together. I can get a lot of it in the University of California at Irvine library. About 20 percent will be original research, and about 5 percent will be my opinion."

"I wanted a change of pace after 20 years of working for other people," says Jain. "And I really think that what I'm setting out to do is the best thing I can provide the industry."

—NICK SULLIVAN

Entrepreneur Finds Success Sweeter the Second Time Around

SNAPSHOT

Jack and Georgia Dennard and Kenny and Nadine Dennard, medical-equipment export specialists

RESIDENCE: King, North Carolina

BUSINESS: Dennard Associates International, Inc. (DAI) provides international marketing services for small- and intermediate-size medical-device manufacturers and distributors.

EQUIPMENT: IBM PC XT with a 20MB hard drive, Leading Edge Model D with Bernoulli cartridge, Toshiba T-1100 Plus portable computer, Toshiba P351 printer, Epson LQ-100 printer, Canon NP 350 collating copier, Canon FAX 230, two typewriters, two-line telephone with WATS Ready-Line (800 number)

SOFTWARE: dBase III, Lotus 1-2-3, Lotus Symphony, Framework, Leading Edge Word Processor

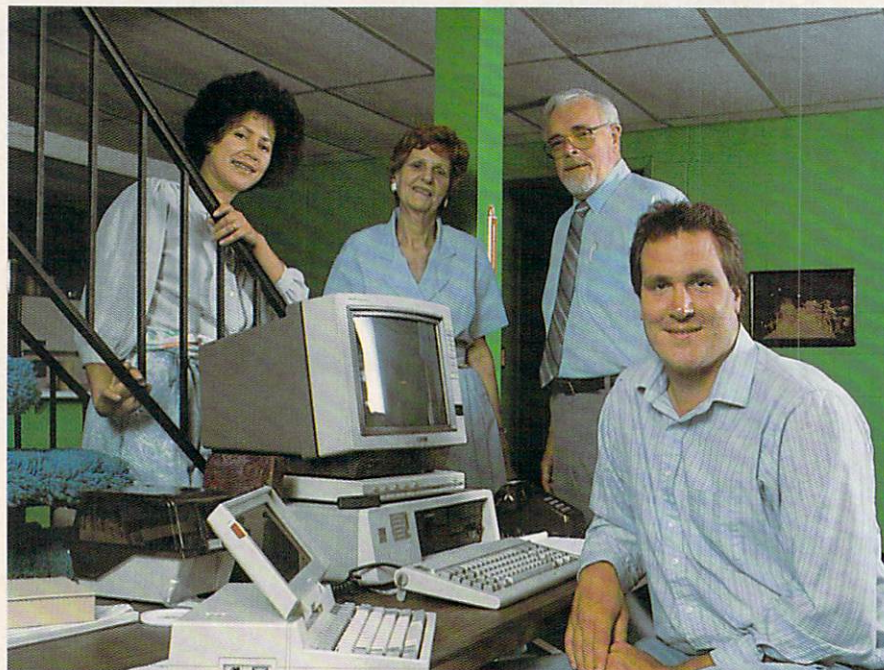
ELECTRONIC MAIL: CompuServe, Dialog, Western Union EasyLink

RX FOR SUCCESS: A facsimile machine. "It gives us the ability to communicate instantly on paper internationally, without the limitations of couriers, the mail, or the telephone."

We have an office in Cologne, West Germany, and we may eventually decide to open more overseas offices as the business expands, but we'll always be home-based. Why leave this for a sterile office in Winston-Salem? There's no reason. The people who need to reach us can—by fax, telex, or telephone—and the UPS driver knows where we are."

As Jack Dennard, 60, talks, you can look through the window behind him at dense dogwoods, cedars, and poplars, and beyond them to North Carolina's Blue Ridge Mountains. "The setting lends itself to building the kind of client relationships an international consulting business requires," Jack notes. "Recently, we brought some clients from Indonesia here, and they were just delighted. It's a relaxing, positive environment for doing business."

Dennard was chief executive officer and chairman of the board of the \$4-million medical-equipment manufacturing firm he co-founded in 1955. When he resigned his position due to differences in goals and corporate policy in the summer of 1987, Dennard, at 59, had to reevaluate his career plans and business objectives. With the help of his son, Kenny, 29, Jack founded Den-



The Dennards—Nadine, Georgia, Jack, and Kenny (from left to right)—run an international business from home.

"Losing the company I'd built was traumatic, but I feel much more in control now."

nard Associates International, Inc., which incorporated early this year. He finds his new business "infinitely more satisfying."

As consultants, the Dennards are matchmakers between medical-equipment manufacturers, distributors, and end users. "This way, we don't have the headaches of the manufacturing process, and it's more interesting in that we have the opportunity to be involved in many more types of products, from blood-flow meters to ultrasound machines to prosthetic devices," says Jack. "To produce as many products as we deal with, a manufacturer would have to be huge. Another thing that's satisfying is that it's unique. There are big export-management concerns around, but I don't know of another firm that's doing exactly what we're doing, in our niche."

This niche is clearly defined. "We don't want the little companies that do \$100,000 a year; and we don't want the big \$100 million companies," Jack explains. He looks at companies that gross \$1 million to \$15 million a year and that haven't been exporting, but are looking to export as a way to boost the bottom line. And that dovetails exactly with his experience in a \$4-million medical-equipment manufacturing company.

"Losing the company I'd built was traumatic, but I feel much more in control now," Jack explains. "I'm not sitting in boardrooms or circulating memos that produce no results. What we do each day has an immediate effect. And the real key is that we're establishing something the entire family can be involved in and carry on with."

Says Kenny, a former Duke University

PHOTOGRAPH BY JOSEPH RODRIGUEZ/PICTURE GROUP

basketball star who played for Kansas City and Denver in the NBA until a bout with cancer cut short his athletic career. "My wife, Nadine, and I were in the process of moving to Atlanta when Dad's business blew up last year. So we stayed here and helped get things going with DAI. I had an IBM PC XT from another business, but the very first thing we bought was another computer. I took Dad out shopping one day to boost his spirits, and we brought home the Leading Edge."

The Dennards credit their automated home office—centered around three computers, a fax machine, a modem, and a copier—with allowing their small staff to wear all the hats of a larger operation. "It would have been impossible for the four of us to function competitively if we didn't have the computers," Jack emphasizes.

"There's no way we could have done it." For instance, Jack can go down to the office at midnight, fax a client's product data to a buyer in Hong Kong at half the day rate for international calls, and get a response by midday.

Using a philosophy of divide-and-conquer, each of the Dennards has 'adopted' a different piece of software, and as Kenny explains, "We're in the process of cross-training each other on 1-2-3, dBase III, and other programs." DAI accesses Dialog via CompuServe and Western Union to get more specific information on target companies, as well as for world export and shipping information.

Jack's wife, Georgia, 60, is DAI's vice-president and chief financial officer, heading up the accounting and bookkeeping departments and developing new international

public-relations efforts. Kenny researches new client prospects, and Nadine, 28, who also manages the office, edits and enters the information into a database. Recently, she began editing data on 4,800 new client prospects Kenny obtained on disk from a government database. Nadine is also in the process of distilling hundreds of appropriate client leads from Dun's Guide to Healthcare Companies (Dun & Bradstreet), as well as leads from on-line services such as MedLine and HealthNet. Once Kenny and Jack confirm that the prospects are appropriate for DAI's market niche, initial contact is made.

"We've been through a lot, but with our combined efforts and Dad's expertise and background, the American Dream is very much alive and kicking here at the Dennards," says Kenny. It's not a bad spot for the dream to live. —CHARLOTTE PIERCE

Horses Dragged Her Away From The Sacramento Office

SNAPSHOT

Donna Koehler, microcomputer consultant

RESIDENCE: Newcastle, California

BUSINESS: Executive assistant/administrator at State of California Franchise Tax Board. She works at home three days a week, and in the office two days.

EQUIPMENT: IBM PC XT with 10MB-hard-disk drive, Okidata Microline 193 printer.

SOFTWARE: Displaywrite 4, dBase III Plus, MultiPlan, Microsoft Chart, EasyFlow

RX FOR SUCCESS: Receiving real-time interoffice calls at home. "People know that I'm working, that I'm accessible."

Looking up from her terminal where she's been crunching numbers for the latest operations budget, Donna Koehler stretches and takes a well-deserved break. Koehler is the hard-working executive assistant/administrator to a division chief of the State of California Franchise Tax Board.

Outside, Koehler takes in the summer view. Grassy meadows slope gently down from the knoll where her new house is under construction. Several gray Arabians are nibbling grass near the stream that crosses the pasture. Lucy and Molly, part Labradors, come running. It's time for a morning walk on the horse ranch to check on the 16 Arabi-



ans. After that, it's back to work at the computer.

Koehler is one of more than 200 state employees working from home offices as part of the State of California's pilot telecommuting project. On Mondays, Wednesdays, and Fridays, Koehler works from her 10-acre ranch, out of a 30-foot trailer where she's living while her house is being built. On Tuesdays and Thursdays she drives down the mountain to the Franchise Tax Board offices in Sacramento to do her on-site work. It's a work arrangement that's

"I'm trying to break co-workers out of the habit of saying, 'Sorry to bother you at home.'"

beneficial to the state as well as to Koehler.

Much of her work is location-independent—conceptual work based on identifying where computers and other equipment can best be used to make the division's operations more efficient and cost-effective. She evaluates ideas such as the use of image-character recognition and imaging systems and laser disks for storing tax returns. It's work that takes a lot of concentration. The need for uninterrupted time to write analyses complete with budgets makes Koehler's job especially suited for telecommuting.

Parts of her job need to be done on-site. Koehler talks to vendors and visits offices to observe operations. Most of her two weekly



Donna Koehler, a California State employee, works at home three days a week to take care of her Arabians.

office days are spent talking to people, in meetings, suggesting new projects and discussing them with her boss.

Communications with the Sacramento office are important and well-oiled. The division's PBX telephone system provides an off-site line between the office computer and a special box attached to a telephone pole near the trailer. Calls to the Sacramento number are forwarded from her desk telephone to the telephone at home. Callers are often unaware that Koehler is answering from home. When Koehler doesn't want interruptions, calls are rolled back to Sacramento where a secretary takes the message.

Koehler sometimes hears others say, "I wish I could do that," or "Why do you get to do that and I don't?" She answers, "I asked." As Koehler tells it, "I harassed my boss to let me telecommute, and the third

time I asked him, he agreed to let me try it.

"The consultants said there might be problems with others accepting our telecommuting. When I started, I purposely made business calls to people on days I was at home so they would know I was working and not on vacation," Koehler says. "I'm trying to break them of the habit of saying, 'Sorry to bother you at home.'"

Koehler's telecommuting benefits the division because she gets more done. She says it takes discipline to make herself do tasks she finds boring. "I hate doing budgets. At the office I could always think of people to see and operations to visit rather than sit down to crunch numbers. I don't feel guilty at the office, but I do here. So I make myself get to work."

In fact, Koehler is scrupulously honest about reporting time off. When there is

hammering to do on her new house, she'll take four hours of vacation time to help the carpenter. Or she'll get up early to work, break for house building, and finish her work in the evening.

Because Koehler brings "deliverables" to the office in the form of analyses and budgets, she can demonstrate the results of her work—essential to developing the trust required to make telecommuting work.

Why did she want to telecommute? "To take care of my horses. In the winter I'd have to get up to feed them in the dark and put the mares and foals out into the cold. I couldn't see if one of them had been hurt during the night. Now I can be here at 3:30 in the afternoon when the vet comes and for emergencies and when the babies are born. I used to have to take vacation to take care of them."

—LIS FLEMING

PHOTOGRAPH BY MARK LONGWOOD

Stockbroker Turns Jobs Broker

SNAPSHOT

Robert Linton, investment banker and telecommuting contractor

RESIDENCE: Walnut Creek, California

BUSINESS: The Linton Factor, which finds independent contractors for corporations

EQUIPMENT: IBM PC XT, Hewlett-Packard DeskJet printer, Sony RD500 transcribing machine, Hayes SmartModem 1200, AT&T two-line phone

SOFTWARE: dBase III, Lotus 1-2-3, Financial Navigator, PFS: Professional Write, SmartCom, WordPerfect

RX FOR SUCCESS: Businesslike presentation. "My word processor was one of the biggest things that made me feel professional when I first started."

I've always thought of myself as a pioneer," says Robert Linton, 32, of Walnut Creek, California. "I like being the first to try something new. That's why I started the Linton Factor. I wanted to be the first telecommuting contractor."

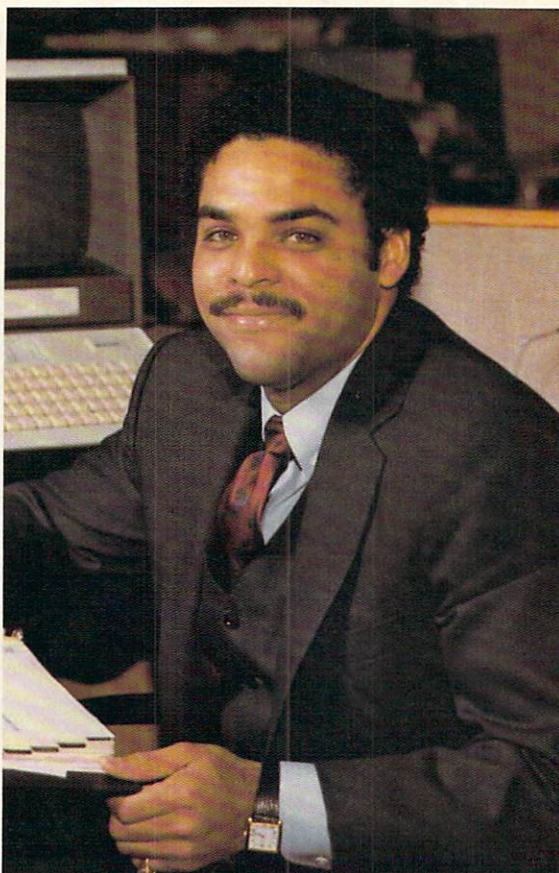
Linton came up with the idea for his home business in March 1985 after reading an article about telecommuting in *The Wall Street Journal*. "I thought, here is a brand new industry that got its start with the computer. It's bound to grow with the use of computers. I could do something with this. I'd always invested in other people's businesses, but not in my own before. This time I started thinking like an entrepreneur."

The Linton Factor contracts with big companies that need data entry, bookkeeping, reservations, catalog ordering, or other work that can be done by independent contractors on their own computers at home. Several large computer and financial services firms are among Linton's clients. To fulfill his contracts, Linton advertises, sometimes with direct-mail pieces that he publishes himself for independent workers.

Linton has made such a name for himself in the home-business arena that he currently hosts and produces a TV show called Home-Based Business Information. The show was running on cable TV in the San Francisco area, but is going national on the Financial News Network this fall.

About three-quarters of the time, Linton works for an investment bank in San Francisco as a portfolio manager for fixed-income investments. As a consultant on contract, he has the financial stability he needs until his own business is self-sustaining, and time to invest in his own enterprise.

Linton was a student of business and eco-



"I always ask myself, 'Can I make money at this?' Working at home helps me to say yes more often."

nomics at UCLA in the 1970s, where he showed an aptitude for business. But he actually had something completely different in mind. His plans were to fly helicopters for the U.S. Army, but that was nixed when he took his last flight physical and was told he had astigmatism. "The Army said all I could do was jump out, and I said, 'No thank you!' I chose instead to enter the Army's Finance Corps."

Linton credits the Army with teaching him the kind of discipline he needs to work on his own. "Not everyone can work at home," he says. "Only a person with the right discipline can work like this. If you need someone to manage you, home is not the place to be."

Linton got his first contract with a children's clothing store's catalog division, which wanted incoming orders from an 800 number relayed to a homemaker's phone. The homemaker's computer was connected to the catalog company's mainframe via modem. That made it possible to check the inventory before booking each sale. "To get that first contract, I approached the com-

pany with the idea that I would provide them with a service that would cost less than they could do it themselves. At the same time, I promised they would not be able to differentiate the work done in-house or out-of-house. That's what first fascinated me about computers, that it didn't seem to matter where they were, the same work got done. It's a kind of technical illusion."

Linton has taken his business back to his main interest, finance. Most of his contracts involve financial transcribing for stockbrokers. The presentation for new contracts also takes the financial approach. "My presentation is based on return-on-investment. I show clients how they can save money, mostly through less office space and equipment. The bottom line for the client is less cost. At the same time, the technology enhances the quality of the work."

"I'm really a numbers person. Before I do anything in my business, I look at all the numbers and ask myself, 'Can I make money in this?' Working at home helps me to say yes more often."

—LYNIE ARDEN

He Dives, She Databases, and Business Stays Afloat

SNAPSHOT

Dan and Inez Wagner, charter-boat operators

RESIDENCE: Indialantic, Florida

BUSINESS: Dream Team Inc., which offers week-long diving trips in the Bahamas

EQUIPMENT: Epson QX-10, Epson FX-80 printer

SOFTWARE: dBase II, Q Plotter, Valdocs

RX FOR SUCCESS: Computerized filing. "Databasing means an end to Post-its."

On board his \$250,000 charter vessel, the *Dream Too*, Dan Wagner attracts wild dolphins with an underwater speaker. Guests have paid up to \$690 for a week on the boat, hoping to dive and swim with playful dolphins.

At home, Inez Wagner, 52, attracts customers and runs the charter business on her computer. She creates mailing lists from a 5,000-name customer list and does the accounting for Dream Team Inc. She and Dan also write promotional letters, brochures, and create print ads with graphics software.

The business is sailing smoothly now, but it's been up on the shoals a few times. Dan, 57, started his first charter business in 1974, refurbishing an 83-foot Coast Guard ship. The renovation of this ship, *The Sirenia*, took two years, which is just how long it was before the ship was wrecked on a reef by a hired captain. The second boat, the *Impossible Dream*, took passengers through the Bahamas from Ft. Lauderdale, Florida.

In 1984, when the business was billing \$300,000 and creating a pile of bills, Inez was forced to buy a computer. "My business was haphazard before I met Inez," Dan admits. "The record keeping was one of my real shortcomings. It was horrible."

"Dan's way of doing bills is to put them in a pile on a round table until it hits the ceiling and then just take off the top layer," says Inez. "I don't like any surprises in the mail. I'm a very organized person."

However, just as Inez had become comfortable running a successful business with the computer, the *Impossible Dream* was also destroyed by a hired captain who ran it into a navigation light. It had taken Dan and Inez a long time to establish a good reputa-

tion as a dive charter operation, but it didn't take long to reverse that reputation. The insurance company didn't pay out the claim

for more than four months, which meant that many people had to wait to reclaim their deposits for future trips. The Wagners



PHOTOGRAPHS BY DAN AND INEZ WAGNER

had little means of support without a boat.

Finally, in 1986, the Wagners got financing to buy the *Dream Too* and have since built billings back up to \$150,000 per year. Inez's son is now the first captain, and the passengers are back in the water. They spend five to seven days on each dolphin cruise and dive several times a day.

Inez uses the computer to print out trip confirmations and passenger agreements and to generate menus for the voyages. She's also numbered every part on the boat and

stored that number into a computer file. "I can order any part by number or supplier. When I get a call in the middle of the night that the pump went down, I can just order it and have it shipped overnight." Inez has also created a maintenance checklist that tells the crew, among other things, to change the engine oil on the 15th of every month and check the generators on the 30th. "We have it set up so that any crew member can do it and sign the record. It makes the boat easier to maintain."

Dream Team is now expanding into the underwater video and photography business. Dan shoots the film and Inez keeps it all organized.

"We each have a job; each picks what comes easiest to us," says Inez. "The computer has allowed me to grow as a person. It has opened up a whole new world of learning for me."

Says Dan, "My wife organizes the business—in spite of me."

—SHERMAN J. SALL

"My wife organizes the business—in spite of me."

On their Dream Too charter boat, Dan and Inez Wagner take divers out to sea to swim with dolphins.



Confirmed Independent Turns from Rugs to Restoration to Real Estate

SNAPSHOT

Patricia Mozer, realtor

RESIDENCE: Milbrook, New York

BUSINESS: D&P Construction and Nine Partners Real Estate

EQUIPMENT: IBM PC AT with 40MB hard-disk drive, Hayes SmartModem 1200, Okidata Micro-line 182 printer, IBM ProPrinter, Radio Shack two-line telephone, Canon PC-25 copier, Dator MLS terminal

SOFTWARE: Custom designed by freelance programmer.

RX FOR SUCCESS: Outside technical help. "To try to do it yourself is bonkers."

I'm a very independent, driven workaholic, happy to be my own boss and not have to conform to someone else's rules and regulations," says Patricia Mozer, who caught the home-business bug in the early 1970s. She set out to buy an Oriental rug and, in the process, discovered that she could sell rugs to wealthy Europeans with the right advertising and service. Working at home with a flexible schedule was important to her at the time because her son and daughter were small. As her children grew up, and the market for expensive rugs softened, Mozer trained her eyes on real estate.

She bought a house to bring in a steady stream of rental income. Then she began a construction business in 1982 when she bought, restored, and sold ("for a very nice profit") an 1840s farmhouse. She bought other land and built three more houses, now for sale in the \$250,000 to \$300,000 range.

Her father ran a construction business when Mozer was a girl, so she was not flying blind. In addition, her son, Donald, 22, has joined her in the construction firm, and her husband, also Donald, an engineer with IBM, is an occasional technical advisor.

While running D&P Construction Co., Mozer tried working for someone else in a real-estate office. It was a frustrating experience. She resented the time spent commuting and felt she was wasting time waiting for the telephone to ring. More to the point, she was unable to persuade her boss to install a computer or to spend more money on advertising.

Last year, Mozer opened her own real-estate firm, Nine Partners Real Estate (the



"I'm a driven workaholic, happy to be my own boss and not have to conform to someone else's rules and regulations."

name refers to the area she lives in, not her management structure). She works from an office on the second floor of her house. The company is a perfect fit with the construction business. Not only can she list D&P Construction houses with Nine Partners Real Estate, but while waiting for calls from potential buyers, she can do the bookkeeping for her construction company.

For her own business, Mozer keeps mailing lists of potential customers, other real-estate agents, builders, and lawyers and sends out frequent mailings from a selection of form letters stored on her hard-disk drive.

Besides her own IBM PC AT, Mozer rents a Dator terminal, printer, and modem from a multiple-listing service. She feels that the extra expense of being on-line gives her a competitive edge over other realtors

who receive listings only once a week in the mail. She can get almost instantaneous specifications on houses being put on the market (by generating a list of similar houses for sale) as well as a list of houses for sale with specific criteria (amount of land, school district, and number of bathrooms, for instance).

After years of running her own show, Mozer's main motto is, "You have to spend money to make money." She hired a computer consultant to set her up, subscribed to the multiple-listing service, rented a billboard on New York's busy Taconic Parkway for the real-estate business, and recently hired a full-time marketing manager.

But the real reason for her success is that, as she says, "I work harder than I have to. I'm compulsive." —SHARON BERMON

PHOTOGRAPH BY JOEL WHITE

His Employer Went Under and He Went Home—With a Job

SNAPSHOT

Brian Bauer, mail-order consultant

RESIDENCE: Somerville, Massachusetts

BUSINESS: Produces catalogs for North Country Corporation, a mail-order firm

EQUIPMENT: Macintosh Plus with 40MB hard drive, Radius Full-Page Display monitor, Image-Writer printer, Practical Peripherals 2400-baud modem

SOFTWARE: PageMaker 3.0, Fullwrite, Red Ryder, MacDraw

ELECTRONIC MAIL: CompuServe

RX FOR SUCCESS: Access to a lively BBS.

"I'm fortunate to have the Boston Computer Society, which gives me access to all kinds of bulletin boards. I just graze information off those things."

As the consulting company he worked for prepared to go out of business three years ago, Brian Bauer, 37, was asked by one of his main clients if he could keep working for the company. For Bauer, a designer of mail-order catalogs, the offer came as a golden opportunity to strike out on his own.

The company seeking to hire him was North Country Corp., a mail-order firm in Cambridge, Massachusetts, which offers a variety of New England food items—like maple syrup and live lobsters.

Bauer had worked for North Country two-and-one-half years and wanted to continue the relationship. "I knew a lot about them, and they knew a lot about me," he recalls. But he also realized he didn't want to have to go into an office full-time. So after two days of negotiations over how often he would have to appear, what the job entailed, and what he would get paid, a contract was signed. And Brian Bauer went home to work.

Home is an apartment located directly above a Chinese restaurant. Bauer treats his home office as a strict workplace, rarely even listening to his expensive stereo system while working. "The freedom of working at home is rather illusory, because you've got to get the job done," he notes. "But on the other hand, you are your own clock, you set your own time, and you set your own rules."

Perhaps the single dominant feature of the

office, which forms a conduit between a bedroom and the living room, is the full-page Radius monitor where Bauer does his design work. It was this and other equipment that really enabled Bauer to make the move to a home office. With the Macintosh and PageMaker software, Bauer found he could dramatically minimize pasteup chores usually reserved for the typesetter. At his old job, he would type descriptions to go along with catalog pictures—dictating the type size and font, the column width, and other details. These would then go to a typesetter and be typed in all over again. Now Bauer can do such things as wrap text around the spaces where photos will appear and send the entire layout—via a modem—directly to a professional typesetting machine, such as a Linotronic.

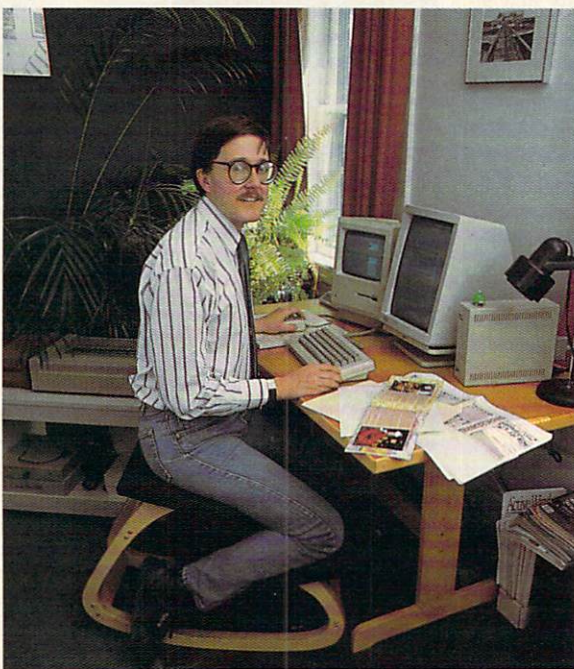
Bauer still revels in the ease of desktop publishing. For instance, the double borders surrounding many photos on his most recent North Country catalog were drawn using PageMaker. "If these were done by hand, they would be fantastically expensive," boasts Bauer. "I just draw boxes, and then all the pasteup people have to do is put down the photos for position. Pasteup takes

a day. The traditional method would take a week."

Despite his freedom, Bauer is not immune to the aggravations of working from his home. His major concerns center on social security taxes, health insurance, and the myriad of small details employees don't have to worry about. "Paper clips don't appear by magic on my desk," Bauer quips. Then there is marketing. "Before, my work was handed to me. Now I have to find my work." Fortunately for him, North Country represents the bulk of his business. Other jobs tend to be small, one-shot deals that arise through referrals or networking.

These projects include menus, a booklet on condominium law, and a variety of business presentations. Bauer is currently designing a promotional piece for a small publisher offering books of poetry. He avoids the tedium of working at home by making consulting visits to customers or running to a print shop to check his designs on a laser printer before they're transmitted to a typesetting machine. "The day gets pretty well broken up," he says. "There's always something new and interesting."

—BOB BUDERI



"You are your own clock; you set your own time and your own rules."

Successful Sheep Farm Stands Out From the Flock

SNAPSHOT

Jerry Rainey and Priscilla Blosser-Rainey, sheep farmers

RESIDENCE: Timberville, Virginia

BUSINESS: The River Farm, which raises, breeds, and sells sheep and fleece; it also sells hand-spinning and weaving materials.

EQUIPMENT: Macintosh SE and Mac Plus (networked), ImageWriter II printer, Sharp copier

SOFTWARE: *Omnis III Plus*, *WriteNow*, *MultiLeger*, *Ready, Set, Go!*, *MacServe* and *Tempo*.

RX FOR SUCCESS: Computerized mailing lists. "We wouldn't have the business we do if we couldn't rely on our mailing list; it lets us find customers in a fraction of a second."

When Priscilla Blosser, 58, moved to the 168-acre sheep farm she'd inherited from her father, she was a "displaced housewife with grown children" badly in need of a job. The year was 1972 and River Farm—set on the banks of the Shenandoah River in Timberville, Virginia—consisted of a few old sheds and a Victorian farmhouse, circa 1874. Priscilla's "flock" numbered two black sheep.

Today, River Farm is nationally and internationally known for its top-quality wool and mail-order sales of spinning and weaving equipment; it's also known as a haven for handcrafters. As a recognized authority on hand spinning, Priscilla is invited to conduct workshops throughout the country. "I turned my hobby into a career because no one would hire me," Priscilla, says. "As a college graduate, I could run the country, but there were no jobs for me."

"So I started showing others how to weave and spin and because they knew I lived on a farm, they'd ask, 'Can't you get me a little fleece?' I could see the potential, so I started buying fleece from others and later raised my own sheep."

It was at this stage that relatives introduced her to Jerry Rainey, 62, a retired NASA engineer enjoying a second career as a family counselor. The two married, and Jerry became River Farm's head shepherd,

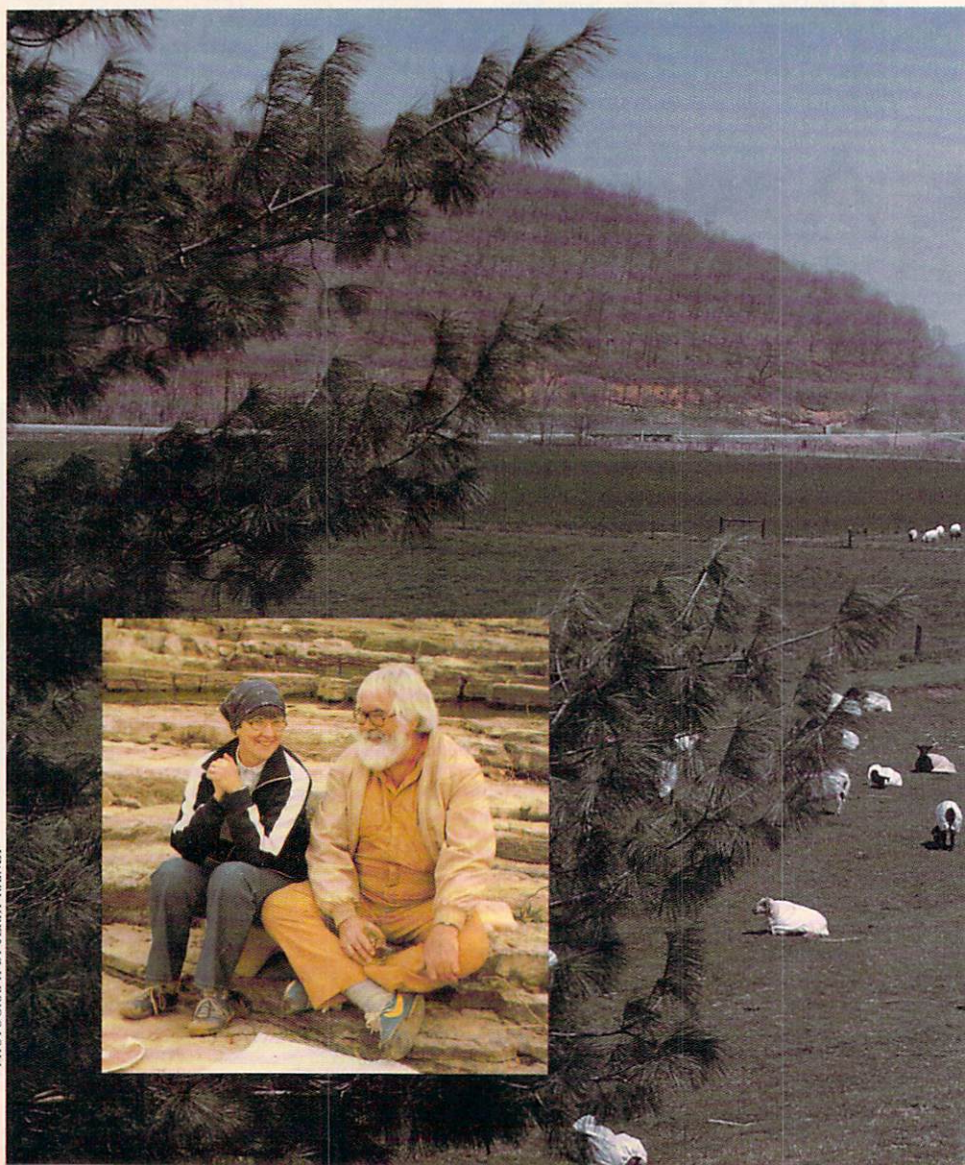
breeding expert, and mail-order entrepreneur.

"I had no idea I'd become a farmer," Jerry, 62, says wryly. "But that's what it says on my income-tax form. I'm a city boy, raised in San Antonio, and I'd never farmed before. And Pris was raised on a dairy farm."

Combining their talents and business acumen, the Raineys acquired more sheep, selling 90 percent of the fleece nationally and reserving prized rams for breeding. They placed ads in sheep-raising trade magazines

as well as spinning, weaving, and knitting journals. To their delight, handcrafters across the country responded. Some wanted to attend Priscilla's spinning and weaving workshops, and others inquired about looms, spinning wheels, and luxury yarns. While their flock grazed in the pastures, Priscilla and Jerry busily stocked their home with a large variety of spinning and weaving products. They were in the mail-order business.

"We call it a two-department business," says Jerry, explaining River Farm's organi-



PHOTOGRAPH BY JERRY RAINES

Jerry Rainey and Priscilla Blosser-Rainey started with two black sheep and now run an international mail-order business.

zational structure. "Mine is sheep and lamb raising, and Priscilla's is spinning and weaving. But the spinning and weaving end is much larger. Our primary product is raw wool sold to hand spinners. We sell virtually all we have from our flock and buy another three to four tons from nearby farmers if their wool meets our requirements for cleanliness. Our standards are higher than the mills', and we pay more. Hand spinners pay a premium for our wool because it's clean."

To ensure cleanliness, River Farm's sheep—looking much like "little covered wagons"—wear Australian sheep covers to protect their fleece from dirt and debris. Sheep covers were added to the mail-order catalog in 1979.

To acquaint customers with their growing inventory, the Raineyes, assisted by resident weaving specialist Maretta Crider, designed a one-page flier and typed dozens of mailing labels. But as the postman delivered more and more requests, they decided to find someone to print computer-generated labels.

"We paid \$600 to a local outfit, and they did a horrible job," Jerry recalls. "They didn't even print zip codes for bulk mailing, and there were many misspellings. This was a time when we'd read ads that said we could buy a whole fancy computer system for under \$5,000. So I went to a local computer store and said 'We want one of those systems for under \$5,000.' We wound up with an Apple III with a hard disk, a noisy printer, and a lot of stuff we didn't need. And it cost \$10,000. But my dealer was forgiving and took back some of the software as we learned what we needed."

A downstairs room was soon converted into River Farm's corporate headquarters and remains the hub of all business activities. Customer orders, bulk mailings, and accounting, they discovered, were easily managed by computer. A WATS line ([800] USA-WOOL) was later installed to handle the increasing number of telephone requests.

In 1987, River Farm abandoned the Ap-

ple III for a two-station network—a Macintosh SE and a Macintosh Plus. "Our system requirements have grown along with the business," Jerry explains. "We looked at a Mac network and liked everything about the system. Still do."

What began as a typewritten flier is now a well-designed 24-page catalog, mailed twice yearly to more than 7,500 people whose names are stored in a database. Workshops are held every other weekend, year-round, and attendees enjoy "down-home" hospitality and bed-and-breakfast accommodations in the Raineyes' two-story farmhouse.

Some farmers would say that the Raineyes' lifestyle is too hectic, but the Raineyes wouldn't have it any other way. They love living and working on the farm and express genuine affection for visiting hand spinners. "I decided to work with what I had—spinning and weaving and this farm," Priscilla says. Jerry adds, "I figured that anyone with two black sheep couldn't be all bad."

—BARBARA STEIN

"I turned my hobby into a career because no one would hire me."



Sailor Steps Ashore to Launch International Yacht-Design Business

SNAPSHOT

Steve McGowan, marine consultant

RESIDENCE: Dartmouth, Massachusetts

BUSINESS: McGowan Marine Inc. designs, manufactures, and installs mechanical systems on yachts. It also imports and exports marine equipment.

EQUIPMENT: Leading Edge Model D, Sharp FO-620 facsimile machine, telex machine, Sharp copier

SOFTWARE: Microsoft Word, Microsoft Works

ELECTRONIC MAIL: Western Union Easylink

RX FOR SUCCESS: A facsimile machine. "It's making my telex obsolete."

Steve McGowan, 37, and his wife, Lynn, spent 12 years on the water. They started as crew in the charter-boat trade, then ran a charter business in the Caribbean on a 125-foot ketch. They also delivered and raced boats. Eventually, Steve got a captain's license and served as captain for two private yachts. In 1980, they drifted ashore.

"When it came time to swallow the anchor—settle down, have kids—we bought the farm, so to speak," says Steve. They built a house on a farm in Dartmouth, Massachusetts, and Steve started a business as a marine consultant. "I found that my knowledge was marketable."

McGowan worked out of his house, with a telex machine and a computer, for four years. "Working at home was a good way to keep the overhead down while I built a business, and it was nice to watch the two kids grow. But after a while, I outgrew the home office. I was spending an hour and a half a day picking up papers to make enough room to work." That increase in papers, of course, was an indication that his business was growing.

"Around the time we went ashore, the big-boat boom started, and we rode with it," says McGowan. "A few years ago, if

anyone in the world was building a 70-foot yacht, everyone knew about it. Twenty are under construction right now, some over 300 feet long. These boats can't be sailed by humans anymore, due to the sheer size. So our mechanical expertise comes in handy."

McGowan Marine Inc. primarily designs mechanical systems for these large one-of-a-kind yachts, though McGowan also imports and exports equipment and refits yachts. His office is situated above a machine shop that tools deck machinery and mechanical systems for fishing boats and yachts. New Bedford, one of the top fishing ports in the country last year, is only 10 miles away. "The New Bedford fishing fleet has been using hydraulics for 25 years, so we pick up a lot of ideas there. We take safe and dependable technology and refine it for yachts."

For new boats, McGowan generally does an initial set of specifications, which he gives to a naval architect who designs the hull. Then McGowan does a second set of specifications with more detail and assembles a team of subcontractors to design, manufacture, build, and install systems, including masts and rigging.

Since the specification books can be 60 to 300 pages and run through eight editions, McGowan and his assistant write and edit with *Microsoft Word*. The disk is then sent to a home-based secretarial service for laser printing. McGowan depends on two part-time home-based draftsmen to draw up plans.

The tool that really makes the business hum is the Sharp FO-620 facsimile machine (which prints 16 shades of gray). McGowan sends designs to subcontractors in boat yards around the world. Because he imports goods, he can receive a signed bill of lading by fax, rather than waiting for it to arrive by mail. "The beauty of fax over telex is that a signed fax document is a legal document," says McGowan, who still uses a telex occasionally. "You can't get

the signature on a telex."

Because McGowan provides after-launch follow-up service on boats he's designed, he often gets emergency phone calls from yachts with problems at sea. "With Satcom, the satellite phone system that yachts use today, I can fax plans to a yacht 2,000 miles from shore. They fix the problem or work around it until they get back to port." McGowan also faxes product pictures and descriptions to clients when they are looking for a particular part.

Although the telex machine itself is slowly being replaced by fax, McGowan still uses the terminal to access Western Union's EasyLink electronic-mail service, the FYI database for current events, and the Infomaster database for product information. For instance, McGowan might get a bid from a subcontractor in Holland for boat construction. He signs onto FYI, checks the latest exchange rate, and can convert the Dutch bid into U.S. dollars for his client. "I don't have to do that—the client could check tomorrow's *Wall Street Journal*—but it's a nice service to offer, and the exchange rate is only an hour old."

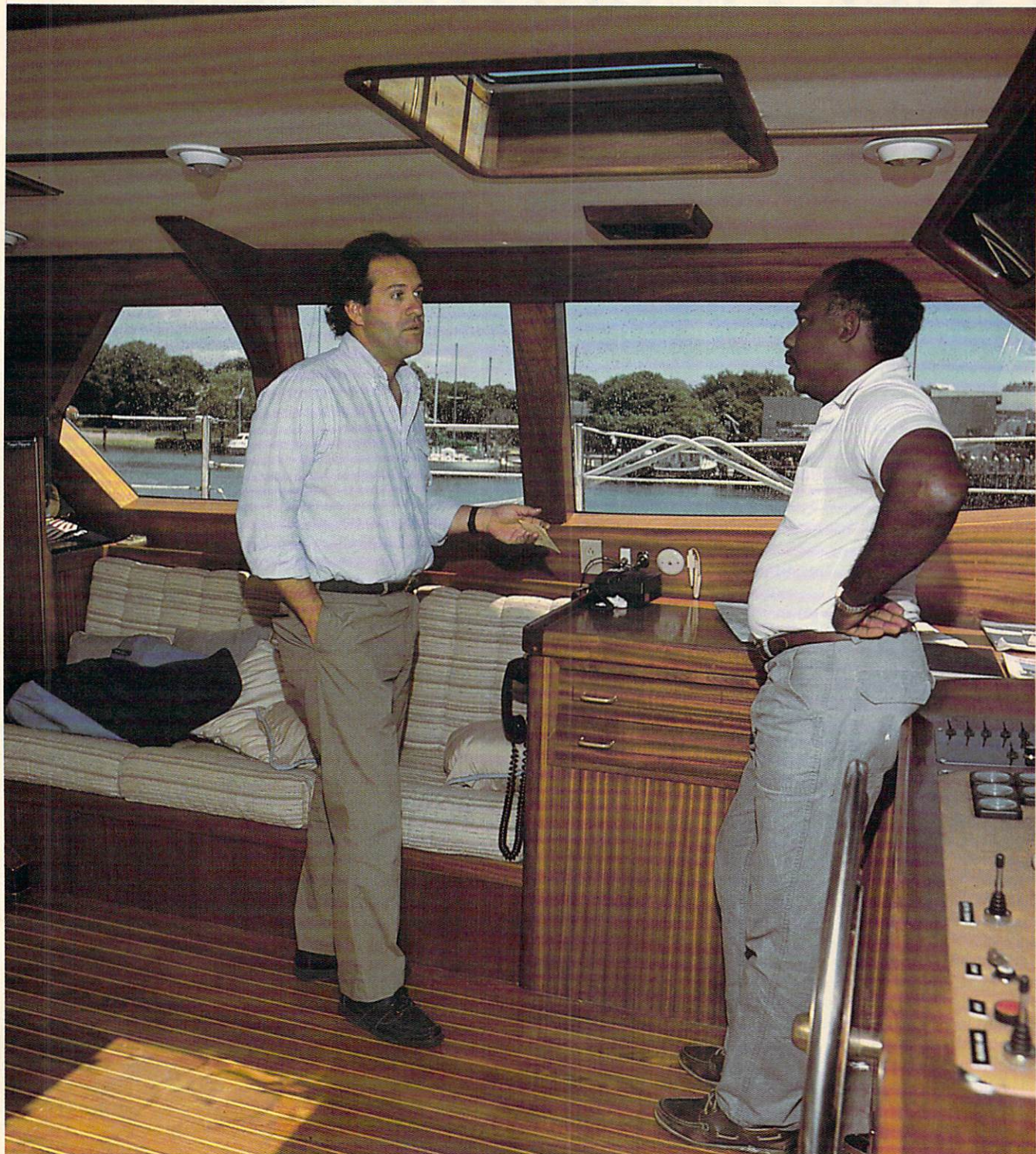
Now that McGowan has moved his office out of his house, he finds home a more relaxing place. "It's amazing what seven miles can do," he says about his short commute. "I used to have kids on my shoulders when I was on the phone. It's nice to go home and not have to work." Not that the McGowan home is Rockwellesque. There are two phone lines—one business and one personal—and they are connected to the McGowan Marine office. In addition, Lynn has taken over Steve's home office for her work as a real-estate broker.

McGowan does miss one part of the home office. "Sometimes during hunting season, I'd take a portable phone out into the duck blind behind my house. People wouldn't know where I was calling from. That was pretty good!"

—NICK SULLIVAN

“Sometimes during hunting season, I’d take a portable phone out into the duck blind behind my house. People wouldn’t know where I was calling from. That was pretty good.”

Steve McGowan (left) conducts an impromptu business meeting aboard a client's yacht.



On-the-Job Skills Translate Into After-Hours Business

SNAPSHOT

Clarence Styron, radiation and biological safety specialist; Patty Styron, graphic designer

RESIDENCE: Ballwin, Missouri

BUSINESS: Technical Presentations

EQUIPMENT: Corona PTC-21 Portable computer, with 20MB hard card, Princeton Graphic Systems monitor, Anchor Automation modem, Epson FX-80 printer

SOFTWARE: VCN Concorde, Turbo BASIC, WordStar, WordPerfect, Lotus Symphony, Norton Utilities, Crosstalk

ELECTRONIC MAIL: CompuServe, The Source

RX FOR SUCCESS: Software that does exactly what you want. "It makes all the difference in the world."

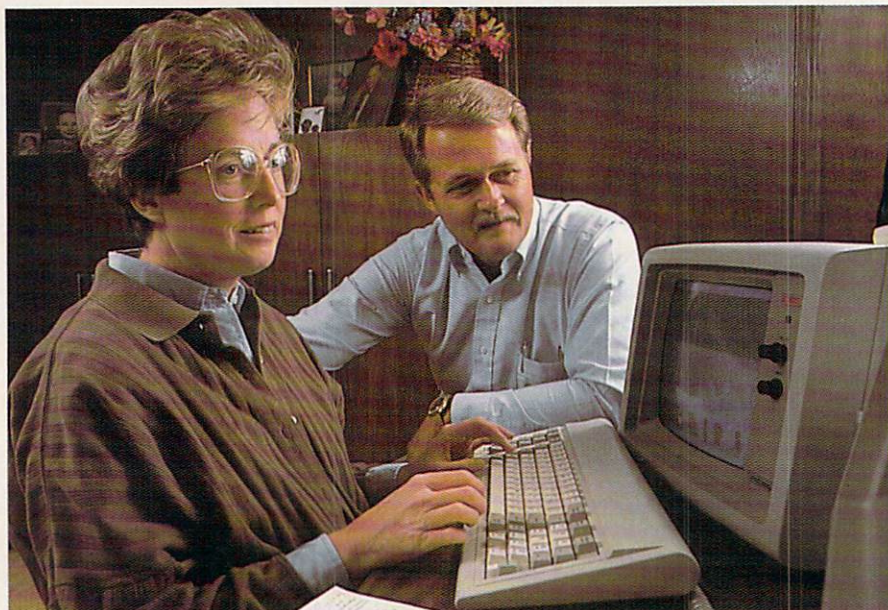
Clarence Styron likes to program. His wife, Patty, has a keen sense of layout and design. And so they formed Technical Presentations, a home business that creates disk-based presentations that add razzle-dazzle to mundane tutorials and demonstrations.

The demo disk from Technical Presentations is a study in animation—with wand-flashing wizards, twirling world maps, and dancing coins.

For Clarence, Technical Presentations is an after-hours business. By day, he works as a radiation and biological safety specialist at Monsanto's Chesterfield, Missouri, headquarters. It was at Monsanto that he first created electronic animations. After scrutinizing the market for adequate programs to teach lab-safety techniques, he decided to develop his own program using interactive animation. The presentations were a smashing success.

Due to popular demand, Monsanto has made Styron's safety disks available to other institutions. Styron is often asked to demonstrate his disks at speaking engagements.

Meanwhile, Patty, after more than 12 years in health education, was ready for a change. "I did so much with health-education development for so many years that I was burned out. It was like swimming upstream," recalls Patty. "The computer is so stimulating that I sometimes sit down to do a 30-minute job, walk away four hours later, and I barely notice the time." She happily admits that she is learning on the job



"I'd like the business to get so big that we couldn't work in the basement."

and says that each day she pushes her artistic capabilities to new limits.

"I develop the animation programming, and Patty brings artistic sensibility to each frame of the animation," says Clarence. In addition to animations, the Styrons can provide more traditional 35mm, overhead transparencies or hard-copy graphics for their clients. They charge \$50 an hour to make animations and about \$20 per slide.

Early on, the Styrons acknowledged that marketing was not their forte. "Our first marketing attempt nearly killed the business," recalls Clarence. The local high-tech companies they targeted with a telephone campaign "simply didn't know what we were talking about," says Clarence.

The turning point was when Visual Communications Network, the makers of VCN Concorde, asked Clarence to participate in an interview which subsequently appeared in *Business Week*. One of the many people who contacted the Styrons after reading the interview was Terri Calvert. Calvert is another home entrepreneur and president of the Sierra Group, a technical training firm in

St. Louis, Missouri. Today, Calvert handles marketing for Technical Presentations, using her many contacts in corporate training locations. Calvert also supplies many of the scripts for the animations.

Despite better marketing, business is building slowly for Technical Presentations. The Styrons have done a project for MasterCard and are busily responding to inquiries from other companies that have expressed interest in the concept. "The only way to understand the power of what we do is to see it," says Clarence, which is why he and Patty developed two demonstration disks.

Meanwhile, Clarence also uses his home office to maintain a publication for Monsanto on The Source called *Biotechnology*. "It's fun to work for yourself, and I need to be self-employed to be really happy," says Clarence. "It gives me a chance for creativity and forestalls job burnout. On the other hand, I also enjoy making a living, and Monsanto has met that need very well. I'd like the business to get so big that we couldn't work in the basement."

—ROBIN RASKIN

PHOTOGRAPH BY SCOTT DINEPICTURE GROUP

She Left the IRS for a Less Taxing Life

SNAPSHOT

Alsy Graham, accountant

RESIDENCE: Shawnee Mission, Kansas

BUSINESS: Graham Accounting

EQUIPMENT: IBM PC, Epson RX-100 and Brother Professional 400 typewriter printers (doubles as a printer)

SOFTWARE: BPI Accounting Packages, Turbo Tax, WordPerfect

RX FOR SUCCESS: Personal service. "It keeps my customers coming back."

Alsy Graham knows that money isn't everything. Realizing that family—especially her 13-year-old daughter—was a priority in her life, Graham left her full-time job as a field agent with the Internal Revenue Service in Missouri in 1985 to begin Graham Accounting. Armed with B.A. degrees in accounting, mathematics, and Spanish, Graham now operates the accounting business out of her home in Shawnee Mission, Kansas. "I love it," says the Ecuadorean-born Graham.

Graham's work hours vary according to her daughter's needs. During tax season, she's busy 10 hours a day, but she prefers the less frenetic pace during the rest of the year. She enjoys being at home with her teenage daughter and helping her husband, a professor of European history at the University of Missouri, overcome his computer frustrations as he writes and researches on an Apple IIe. Volunteer work with terminally ill cancer patients in a local hospice means as much to Alsy as anything else that she does. "It's tremendously fulfilling work," says Graham. "I probably benefit more than the patients do."

"You have to learn to live with your business, but not let it take over your life. My first year, I would wake up in the middle of the night with nightmares because I forgot to do one tiny thing during the day," Graham feels that that part of the discipline of having a business is knowing when to close up shop and go home, even when home and office are one and the same.

Graham enjoys the "you name it, I do it" nature of her work. She handles bookkeeping, payroll, financial statements, and bank-loan packages for her clients. Some of her accounts are corporate, some are individual, some are partnerships. "I provide extra services that my clients wouldn't get elsewhere," says Graham proudly. "I walk them through every step, and I even balance



"You have to learn to live with your business, but not let it take over your life."

checkbooks for three or four clients.

"I am bilingual, and I enjoy combining accounting with interpreting and translating." Her ability to speak Spanish (and some Portuguese), in fact, might be a strategic selling point, but she sells herself solely on her accounting skills. Graham, who speaks with a trace of a foreign accent, says that "speaking with an accent can be a problem. Sometimes people have stereotypes." Her answering machine's message,

when recorded in her own voice, was not as successful as when a voice without an accent recorded the message. "You have to be realistic when you have your own business," she says, matter-of-factly.

Graham, who charges a reasonable \$30 per hour for her accounting services, admits she isn't making the money she made with the IRS. "But it depends on what you want in life," says Graham, who obviously knows.

—ROBIN RASKIN

She Quits \$50,000 Job to Put Her Skills to Work

SNAPSHOT

Diane Simpson, Japanese culture expert

RESIDENCE: Roosevelt Island, New York

BUSINESS: Simpson International Inc.

EQUIPMENT: Panasonic Business Partner with 20MB hard drive, Toshiba P321 printer, Sharp FO-210 facsimile

SOFTWARE: DisplayWrite, Microsoft Word, XyWrite

RX FOR SUCCESS: A facsimile machine. "I wish I had bought one three years ago."

Why did Diane Simpson leave a \$50,000-a-year job with the world's largest securities company to go on her own? "I had gone as far as I could go with Nomura. If I stayed, I wouldn't be breaking any new ground or using all my abilities," says Simpson. Starting her own intercultural consulting firm gave her a chance to "use all my skills and training, my psychological background, my Japanese experience, and my business knowledge."

So Simpson, who had been executive assistant to Yoshio Terasawa, chairman of Nomura Securities International, the U.S. division of the company, set up shop in her apartment on Roosevelt Island, a tiny island in the middle of the East River next to Manhattan. "Money—or lack of it in a new business—was one of the obvious reasons to work at home, but my work is also very information dependent, and it's important for me to be near my books all the time, not just from 9 to 5."

Simpson advises Japanese and American companies on issues relating to communications, business etiquette, and marketing. An important part of her practice is advising employees of American companies that are doing business in Japan about the subtleties of Oriental customs: "Don't accept a card from a Japanese colleague with one hand—two hands are more respectful"; "never address a Japanese by first name in conversation"; and "never give anything in sets of four because the Japanese word for four sounds like their word for death."

Simpson has become a world-class expert on Japanese customs over the years. After earning a doctorate in psychology in 1969, she spent three years in post-doctoral research in Japan. While there, she became fascinated by all aspects of Japanese culture—language, literature, calligraphy, the tea ceremony—and especially the differ-



"I had gone as far as I could go. If I stayed, I wouldn't be breaking any new ground or using all my abilities."

ences between American and Japanese cultures. When she returned to the United States, she took a conventional job in academic research but continued to study Japanese business and customs.

As she became more interested in business and was driven to make more money than the academic world offered, she moved to Nomura, where she worked from 1981 to 1985. Now, after three years, Simpson International is profitable, but Simpson is not making the money she earned at Nomura. However, with an impressive client list that includes Nomura, Morgan Stanley, AT&T, Sony, and Coca-Cola, Simpson expects to exceed her previous salary soon.

Simpson's fees range from \$1,200 a day for consulting to \$3,000 per day for designing and conducting training programs. She also writes a monthly feature about life in New York City for *AVANT*, a Japanese business magazine. She faxes her article—in English—to Tokyo where it is translated. She's also working on two books: a glossary of Japanese business and human-relations terms and a psychological analysis of Japanese economic motivation.

Though Simpson depends on her com-

puter for word processing, she hasn't taken the time to learn spreadsheet software. She feels a One-Write-type accounting system is adequate for her needs. She is eager to buy a copier ("unless Roosevelt Island gets a better copy shop") and a modem, so she can subscribe to electronic databases for research and communicate with a writing partner in Boston. However, she says the modem won't help her with clients in Japan. "They prefer fax since most of them write letters by hand or with a word processor that uses Chinese characters."

Loneliness is not a problem for Simpson because she spends two or three days a week outside the office keeping appointments or conducting training seminars and spends several months a year in Japan or Europe. Although the assistance of her secretarial employee in Simpson's home office has been useful, it's also been a mixed blessing. She feels a lack of privacy.

Simpson's only other complaint is rather unusual. "The beep-beep on my fax machine cannot be disabled, and I have to leave it on all night since most of my faxes arrive between midnight and 5 a.m.!"

—SHARON BERMON ■

PHOTOGRAPH BY JOSEPH BERGER

Checklists for Success

Here's a "to-do" list for anyone in business. Check the ideas and tips that appeal to you and refer to them frequently—until they become second nature.

BY LYNIE ARDEN

8 Steps to Starting Out Right

Careful planning is essential to any new endeavor. Take the time to consider the basics of working on your own, and decide how you're going to handle each one.

1. Do your homework. Success comes to those who know their business. Attend classes and seminars in your field, join trade associations, and read relevant materials. Build a business library so the information you need will be within arm's reach. If you don't know your debits from your assets, cultivate a working knowledge of business lingo. Consult with professional advisors. Check into on-line databases.

2. Talk it up. You must communicate with the world, or your business will wither and die. Learn to use the phone effectively, write articulate business letters, and produce polished promotional materials. Write a description of what you do and practice saying it until you can repeat it without thinking twice about it.

3. Develop a marketing mind-set. Everything you do as a self-employed professional is marketing. From the name you choose to the way you answer your phone to the design of your stationery, always project a strong professional image. Word of mouth will always be an important form of advertising. Network with anyone and everyone who can bring you referrals.



4. Make it a family affair. Lay the ground rules for behavior during business hours. Give extra time to your family by not doing "busy work" during family time. If you are having cash-flow problems, ask everyone to pitch in and help save money. Share the rewards when times are better.

5. Invest in good equipment. Today's home office can mirror a corporate office on Wall Street for a relatively modest investment. Invest in "fast" equipment that will increase your productivity. Remember, if it

saves you time, it ultimately saves you money. If you can't afford a large cash outlay, consider leasing or renting what you need.

6. Give yourself some space. For efficiency and tax purposes, separate your office from family areas. Use file cabinets, bookcases, and database software to organize so you won't waste time hunting for information. Invest in a good chair and make sure you have proper lighting. Personalize your workspace with pictures, plants, and anything else that makes it comfortable.

7. Don't forget Uncle Sam. The good news is that you get a few dozen deductions for a home office. To make sure you don't miss any of them, get Publication #587, *Business Use of Your Home*, free from any IRS office. The bad news is that you have to pay self-employment tax on net income. You also have to make estimated tax payments quarterly once your net income amounts to \$500 or more. To avoid headaches at tax time, keep all receipts and careful, complete records of income and expenses.

8. Insure your success. One disadvantage of being self-employed is not having health and disability insurance. You may also need liability coverage. Consult with an insurance professional to make sure you have the needed coverage. Also, you should attach a rider to your homeowner's policy to insure your business equipment.

Advice from Experts

"Schedule regular working hours so your family will know what to expect and your business will become a part of their lives, too." —GEORGANNE FIUMARA, founder of Mothers' Home Business Network

"Treat this as a regular business. It is not any less of a business because it is in a home. If you take it seriously, so will everyone else." —LESLIE MACDONALD, Director, Center for Home-based Business, Truman College, Chicago

"The key to working at home has nothing to do with physical space. It has to do with the frame of mind. You must have a love for what you're doing and also take responsibility for it." —BILL ATKINSON, author of *Working at Home: Is It For You?*, Dow Jones Irwin, 1985

"Carefully plan a good accounting system from day one. Your ability to measure the success of the business and also deal with Internal Revenue Service issues that may come up in the future will depend on how well your financial data is organized in the beginning." —PETER POULIN, Presi-

dent, Poulin & Robustelli, P.A., small-business accounting specialists, Lewiston, Maine

"Think things through, and do what makes sense to you, and ignore the fancy talk about business. Start small, and your mistakes will be small." —BERNARD KAMOROFF, author of *Small Time Operator*, Bell Springs Publishing, 1988

"Establish multiple sources of income and market each one aggressively." —JAY LEVINSON, author of *Guerrilla Marketing*, Houghton-Mifflin, 1984

Take Care of Business

Running a home-based business is often a juggling act. Keeping track of details depends entirely on you. There are three major areas that you'll need to master: money management, time management, and self-management.

MONEY MANAGEMENT

1. To make sure you have enough capital to go ahead with your plans, start with a 12-month cash-flow projection based on your marketing plan.

2. Your start-up working capital should equal at least two months of operating expenses plus any capital outlay for equipment, fixed assets, and supplies.

3. For the first year, spend more money on your working assets (which will bring you a return on investments) than on your fixed assets.

4. Save up vacation and sick time before leaving your job so you can use that paid time to launch your business.

5. For an emergency resource, raise the limits of your credit cards to the maximum.

6. To keep your cash flow healthy, arrange for credit from suppliers, but insist on cash on delivery (COD) or partial payment in advance from your customers.

7. Pay your bills on time to avoid penalties, but don't rush.

8. Pricing too low is a common mistake. Set your prices in the middle or upper range, and sell on quality of service rather

than price. Remember to factor in the time you will spend doing paperwork and other business activities.

9. Reduce phone bills by calling during off-hours, using 800 numbers whenever possible and using a timer on long-distance calls.

10. Buy supplies in bulk.

11. Establish a routine for all financial transactions. File expense and income receipts daily.

12. Learn to read a financial statement.

13. Consult with your accountant at least four times a year.

TIME MANAGEMENT

Without a boss, you will have to decide for yourself the kind of schedule that will work best for you. For a while, record how you spend your time and look for ways to

streamline your routine.

1. Buy a weekly schedule planner and use it diligently.

2. Don't forget to plan for the business of doing business: going to the post office, shopping for supplies, banking, and so on.

3. Learn to do two things at once, such as opening mail while printing out a document.

4. To avoid procrastination, tackle the toughest task first, and learn to say no to interruptions.

5. Do work that requires concentration at your peak time.

6. Break tasks into blocks, and take breaks in between.

SELF-MANAGEMENT

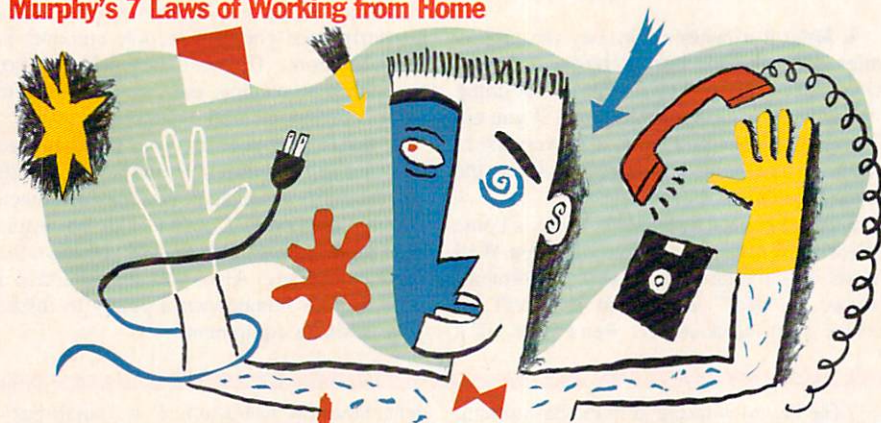
1. Set a routine. Only people who can manage themselves can make it at home. Start by organizing and sticking to a routine. Make a to-do list at the beginning of the day, and keep such distractions as the television and food out of your office.

2. Reward yourself for accomplishments, and don't let your enthusiasm falter. Keep a business scrapbook to remind you of how much you've achieved.

3. Get out of the house. To avoid isolation, keep up your social life and do some of your business outside the house. Also, dress up and lunch out often. Join associations and clubs.

4. Above all, take care of yourself. Maintain a regular exercise routine (preferably with a friend) and schedule short vacations several times a year.

Murphy's 7 Laws of Working from Home



The key to being successfully self-employed lies in a vigilant follow-through. In spite of the best efforts, however, there will be days when you'll wonder where you went wrong.

1. Start-up costs will always rise to meet cash reserves.

2. The day you receive 5,000 professionally designed sheets of stationery and matching envelopes, your spouse will announce his or her job relocation to Cleveland, leaving you to rubber-stamp it alone for months.

3. While you're on the phone with a caller from Australia, making the most im-

portant connection of your career, your 5-year-old will run into your office howling with a bloody nose.

4. Within a week of erasing a disk of old business letters, a client will ask to see a copy of one.

5. The more you need the check that's in the mail, the longer it will take to arrive, while bills will defy the laws of nature to reach you in record time.

6. The one time you don't back up your work, your hard-disk drive crashes.

7. Federal Express always delivers while you're in the shower.

10 Quick Tips for Success

1. Test before you commit—ads, pricing, and packaging, for instance.

2. Don't overextend your resources.

3. Set realistic goals. Don't expect overnight success.

4. Keep expenses low and start small.

5. Believe in yourself.

6. Hope for the best and prepare for the worst.

7. Stick to it.

8. Never stop learning.

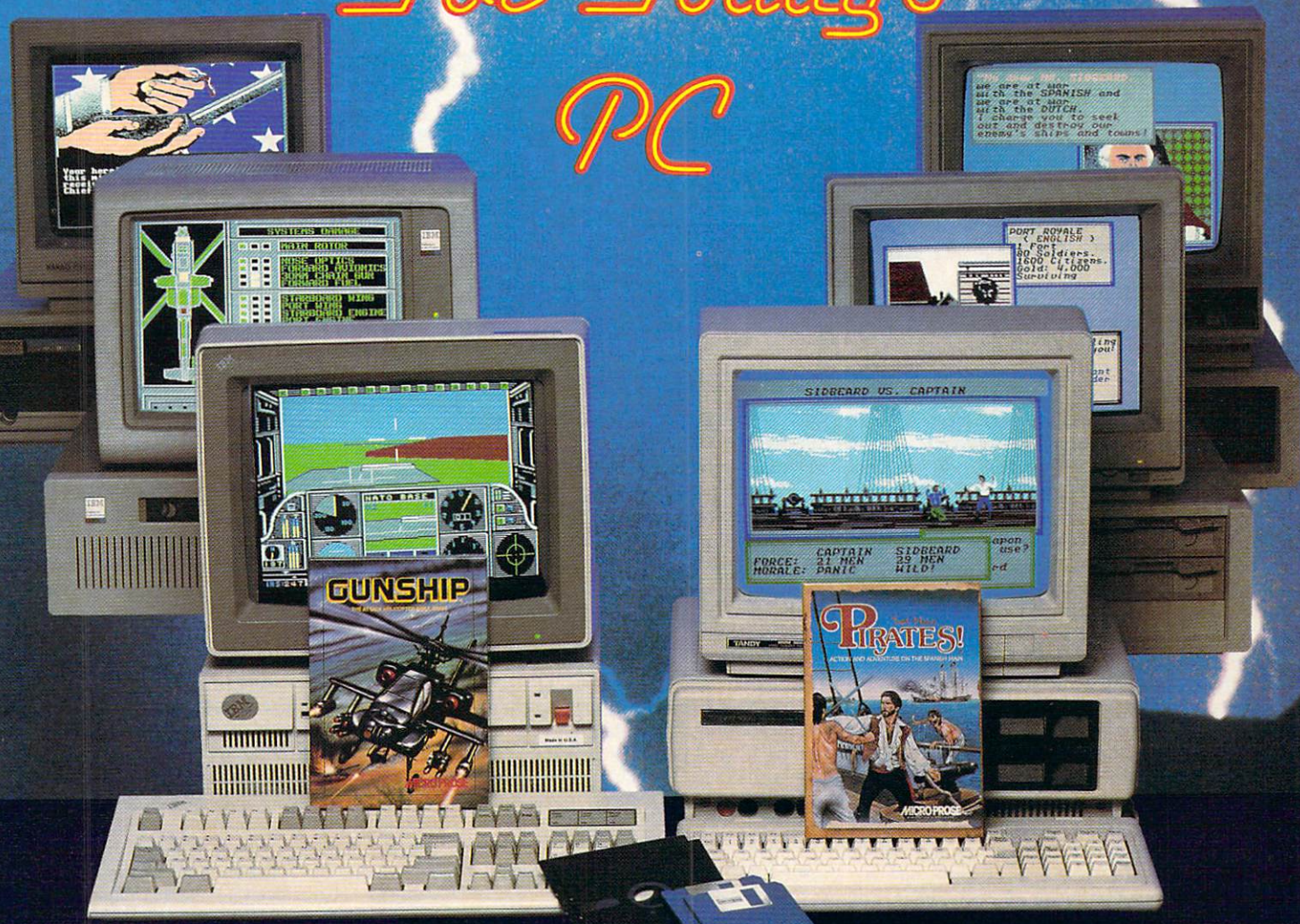
9. Tell as many people as you can about your business.

10. Take time for yourself.

For sources of information on running your home business, refer to "Home-Business Resources" on page 28, for a list of publications, organizations, associations, and networks serving the industry. Readers should be aware that this is only a sprinkling of the many resources available for home-business owners.

LYNIE ARDEN, a member of the HOME-OFFICE COMPUTING advisory board, publishes The Workstader Newsletter for people who work from home.

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BY THE EDITORS & REVIEWERS OF HOME-OFFICE COMPUTING

The Time-Tested, The Tried, The True For MS-DOS, Macintosh, and Apple II Computers

The programs described in the following pages are dependable. They do what they are designed to do—make you more productive—and they are well supported by their publishers. Almost all have been around long enough to have gone through several revisions, and each time they have been improved. This collection does not represent all software categories nor all the good programs in each category. But all the major business categories are here, and all the programs are first-rate.

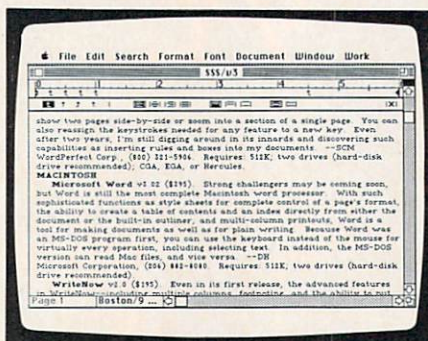
Keep in mind that these descriptions are not full-fledged reviews. We have not mentioned everything that a program does, but tried to highlight the features that make it special. Where we have reviewed or will review a program, the (prospective) date of the review is given.¹ Insofar as possible, this list describes the most recent version of each program that's currently on the market. Past reviews may be of earlier versions, and in many cases new versions are now under development. Credits for editors and reviewers are given by initials; their full names are listed below.

WORD PROCESSORS

Five years ago, word processors were little more than souped-up electronic typewriters with large memories. Today, many word processors allow you to create and produce long documents, newsletters, or books. They have adopted many of desktop-

EDITORS AND REVIEWERS

HB: Henry Beechhold; **SC:** Steven C.M. Chen; **PC:** Pasquale M. Cirullo; **JD:** Jeff Donahue; **ME:** Marlene Bumgarner Eltgroth; **CG:** Charles H. Gajeway; **AG:** Anthony Guardino; **DH:** David Hallerman; **BH:** Brooks H. Hunt; **LK:** Lisa Kleinholz; **DK:** Deborah Kovacs; **JL:** John Leininger; **SCM:** Stephen C. Miller; **SAM:** Steve A. Morgenstern; **TM:** Tony Morris; **LP:** Lance Paavola; **RR:** Robin Raskin; **GS:** Gwen Solomon; **MS:** Matthew Stern; **NS:** Nick Sullivan; **TS:** Tan A. Summers; **JZ:** Judith Zornberg



Microsoft Word on the Macintosh gives you complete control of a page's format.

publishing's most alluring features and now can format text and graphics—in columns and pages—in a variety of typestyles.

Word processors are also great meeting places. Text, graphics from paint programs, numbers from spreadsheets, and addresses from databases can be pasted into some word processors. Many include writing tools such as dictionaries, spelling checkers, and thesauruses. Depending on your needs, look for a word processor that:

- Reads files from other word processors.
- Features WYSIWYG (what-you-see-on-the-screen-is-what-you-get).
- Integrates text and graphics.
- Allows multiple fonts (typestyles) in any document.

IBM/MS-DOS

Microsoft Word v4.0 (\$450). One of the first and best word processors for the IBM PC and compatibles, *Word* shows you on the screen exactly what you get on the printed page. In addition to a spelling checker, thesaurus, and outliner, *Word* features a style sheet for formatting your text. This outstanding writing tool couldn't be simpler to use. Once you've set up a style sheet for a particular combination of typeface, point size, margins, and tab stops, all you have to do is to select the style from a menu. You couldn't ask for better printer support either. To choose a typestyle, simply scroll through a list of fonts and point sizes available for your printer. Because *Word* is graphics-oriented, switching screens can be slower than on text-based programs.

—SC
Microsoft Corporation, (206) 882-8080.

Requires: 320K; two drives (hard drive recommended); CGA, EGA, VGA, Hercules.

Professional Write v2.0 (\$199). With *Professional Write*—an excellent, mainly menu-driven word processor—the publisher has dropped the erstwhile “PFS” prefix and added or improved features of the original *PFS: Professional Write*. For example, you can read and write documents in several file formats—including those of *Microsoft Word*, *WordPerfect*, and *WordStar* (versions 3.0 or higher)—which makes it easy to share files with people using other word processors. It's also easy to insert elaborate figures into your text, since the program lets you import worksheets created with *Lotus 1-2-3* or compatible spreadsheets. My favorite addition is the abundant support for the fonts found in the Hewlett-Packard LaserJet and Apple LaserWriter printers; mark your text and choose a font from a menu. —DH

Software Publishing Corp., (415) 962-0191. Requires: 512K; two drives (hard-disk drive recommended).

Webster's New World Writer II v1.0 (\$170). Whether you use the extensive set of menus or drive the program via keyboard commands, *New World Writer* delivers many more options than most of the competition. It includes a mail-merge function, an on-line thesaurus, an on-line spelling checker, a separate outlining program, and well-written documentation. It lets you draw lines and boxes to highlight a page and supports dozens of printers. Original release reviewed January 1987. —DH

Simon & Schuster Software, (800) 624-0023; (800) 624-0024 (in NJ only). Requires: 384K (512K recommended); two drives (hard-disk drive recommended).

WordPerfect v5.0 (\$495). *WordPerfect*, an MS-DOS word processor that integrates text and graphics, is clearly one of the superstars. The best thing about *WordPerfect* (aside from its upgrades—which really are upgrades, not bug fixes—and its excellent 800-number phone support line) is that it has so much flexibility and depth. For

¹Note that for back issues, the magazine was called FAMILY COMPUTING between September 1983 and September 1987; it was called FAMILY & HOME-OFFICE COMPUTING between October 1987 and August 1988.

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— **PC Clones**

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— **PC Week**

"... the only computer program they (users) will ever need..."

— **NY Times**

"****... the best integrated package I've ever seen..."

— **Home Office Computing**

"... very easy to learn and use... quite intuitive."

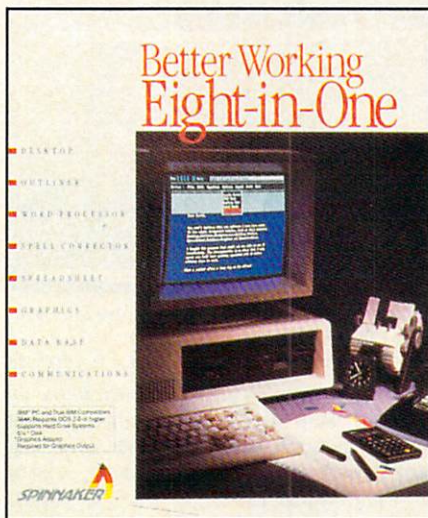
— **PC Week**

"PFS: First Choice and Microsoft Works, move over! BetterWorking Eight-In-One may turn out to be the low-cost integrated sleeper of the year."

— **PC Magazine**

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— **Washington Post**



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CIRCLE READER SERVICE 37

instance, the page-preview feature can show two pages side by side or zoom into a section of a single page. You can also reassign the keystrokes needed for any feature to a new key. Even after two years, I'm still digging around in its innards and discovering such capabilities as the ability to insert rules and boxes into my documents. —SCM

WordPerfect Corp., (800) 321-5906. *Requires: 512K; two drives (hard-disk drive recommended); CGA, EGA, or Hercules.*

MACINTOSH

Microsoft Word v3.02 (\$395). Strong challengers may be coming soon, but *Word* is still the most complete Macintosh word processor. Offering such sophisticated functions as style sheets for complete control of a page's format, the ability to create a table of contents and an index directly from either the document or the built-in outliner, and multicolumn printouts, *Word* is a tool for creating complex documents as well as just for plain writing. Because *Word* was an MS-DOS program first, you can use the keyboard instead of the mouse for virtually every operation, including selecting text. In addition, the MS-DOS version can read Mac files, and vice versa. —DH

Microsoft Corporation, (206) 882-8080. *Requires: 512K; two drives (hard-disk drive recommended).*

WriteNow v2.0 (\$195). Even in its first release, the advanced features in *WriteNow*—including multiple columns, footnoting, and the ability to put graphics in paragraphs with text wrapped around them—placed it at the top of entry-level Macintosh word processors. Version 2.0 brings several more useful features, including this touch-typist's favorite: the option of using cursor keys in addition to the mouse. Reviewed November 1987. —DH

T/Maker Company, (415) 962-0195. *Requires: 128K (512K recommended); two drives recommended.*

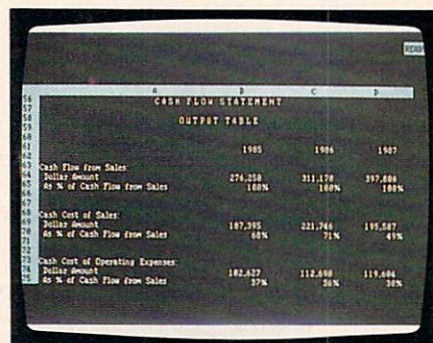
APPLE II

MultiScribe GS v3.0 (\$100), **MultiScribe v3.0** (\$80). A Macintosh-style program that has drop-down menus and supports a mouse, *MultiScribe* displays and prints text in a wide variety of fonts and typesizes. The same publisher offers add-on programs—such as desk accessories and clip art—that can be used with the word processor. There are separate versions for the older IIe/IIc and the newer IIGS; the GS version, using that computer's greater power, allows for larger documents among other enhanced features. Original release reviewed February 1987. —DH

StyleWare, Inc., (713) 668-1360. *Requires: 128K (IIe/IIc version); 768K (IIGS version); mouse recommended.*

WordPerfect IIGS v2.0 (\$179), **WordPer-**

fect IIe v1.1 (\$179). This very powerful program is ideal for people who want to put together intricate documents. While it doesn't allow you to import database and spreadsheet data, it offers many features above and beyond the standard word-processing package. These include mail-merge, multiple fonts (IIGS only), and macro support to automate often-used functions. *WordPerfect* is a complex program that requires frequent use to master, but surpris-



CASH FLOW STATEMENT				
OUTPUT TABLE				
	1985	1986	1987	
Cash Flow from Sales:				
Dollar amount	274,250	311,170	397,600	
As % of Cash Flow from Sales	100%	100%	100%	
Cash Cost of Sales:				
Dollar amount	187,395	221,740	195,587	
As % of Cash Flow from Sales	68%	71%	49%	
Cash Cost of Operating Expenses:				
Dollar amount	182,627	112,600	119,404	
As % of Cash Flow from Sales	67%	36%	30%	

Lotus 1-2-3 Small-Business Kit provides templates for the small-business user.

ingly good results can be attained early on with the help of the program's excellent manual, tutorial, handy reference card, and on-line help screens. Original IIe/IIc release reviewed March 1986. —JD

WordPerfect Corp., (800) 321-5906. *Requires: 128K (IIe/IIc); 512K (IIGS); two drives recommended (hard-disk drive optional), IIe/IIc; one drive, IIGS.*

SPREADSHEETS

Five years ago, electronic spreadsheets had virtually supplanted physical spreadsheets, but they were still stuck in the world of numbers. Today, not only can spreadsheet data be easily integrated into other programs, but within the spreadsheet itself you can in some cases enter pages of text behind a cell or link cells in different worksheets. And, of course, you can produce better and more colorful graphics from the numbers. Spreadsheets are perfect tools for manipulating numbers in business, engineering, education, and other areas. They're also useful for working with text data (especially tables) and business graphics. Shopping for a spreadsheet may be simpler than shopping for other kinds of programs, simply because there are so many good ones to choose from. Keep in mind the following points before making a purchase:

- Some of the more powerful spreadsheets, such as *Excel*, require a hard-disk drive and more memory than such other excellent spreadsheets as *Lotus 1-2-3* or *Quattro*.

- Look for *Lotus 1-2-3* compatibility in

the reading and writing of worksheet files. You don't need a *1-2-3* clone, however; even both Macintosh spreadsheets listed below have that capability.

- Not all good spreadsheets have built-in graphing capabilities (*Lucid 3-D* and *MacCalc* are two that don't), so make certain that function is there if you need it.

IBM/MS-DOS

Lotus 1-2-3 Small Business Kit v2.1 (\$595). The famed *1-2-3*, which dethroned *VisiCalc* years ago, is the standard against which any new spreadsheet is measured. In addition to the spreadsheet, the program offers business graphs and a database capability. After five years, *1-2-3* is no longer the greatest spreadsheet around. However, with the predesigned worksheet templates and phone support that are part of the "Small Business Kit," *1-2-3* is an excellent tool for small businesspeople just starting off with spreadsheets. The kit contains version 2.1 of *1-2-3*, worksheets for business basics (balance sheets, cash flow, and budgeting, among others), and support, including both an 800-number hotline and information from the Small Business Administration. Unfortunately, current *1-2-3* owners cannot buy the worksheets separately. Version 3.0 of *1-2-3*—which will require more powerful hardware—is expected later this year. —SC

Lotus Development Corp., (617) 623-6572. *Requires: 256K; two drives.*

Lucid 3-D v1.8 (\$199). *Lucid* offers several excellent features rarely found in any spreadsheet. Its most innovative concept is the ease of using multiple worksheets in a three-dimensional relationship. Imagine worksheets stacked sandwich-style. Any cell in the top worksheet can carry over data from a cell in a worksheet below it. Moving back and forth among related spreadsheets is simple, and there is no theoretical limit to the number of layers you can employ. Another worthwhile feature lets you attach notes up to eight pages long to any individual cell, which helps you both annotate your efforts and write and print entire memos or letters from within *Lucid*. It doesn't offer built-in graphing capabilities, however; and a separate utility (supplied with the program) is needed to convert *Lotus 1-2-3* worksheets to *Lucid*'s format. *Lucid 3-D* can be run as a memory-resident program, but it's just as robust as a typical, stand-alone spreadsheet. Reviewed June 1988.

—SAM
Personal Computer Support Group, (800) 544-4699; (214) 351-0564. *Requires: 256K; two drives.*

Microsoft Excel v2.0 (\$495). Both mouse- and menu-based, *Excel* brings the strengths of the instinctive Macintosh interface to the MS-DOS world. The advantages are abundant: view up to six worksheets at once

The Greatest Pop-Up Spreadsheet In Memory.

Numbers Up is here. It's a memory-resident spreadsheet that's available at the touch of a key. You can make quick calculations, or get often-needed formulas or tables in an instant. Then plug them in wherever you need them.

Numbers Up™ extends the utility of your favorite software.

Since Numbers Up is always in the background, you can jump right to it for figures. Then cut and paste them into any application. You can even move information transparently between any two programs using its powerful AI technology. Whether it's a word processor, database, or another spreadsheet, Numbers Up knows the difference between them. So there's no reformatting, no tabs to insert, or fields to move.

The most powerful spreadsheet you can buy for only 12K.

Incredibly compact, Numbers Up only occupies 12K of memory! Thus leaving the maximum amount of memory possible for your other applications. Saves you something else too. Money.



It's only \$79.95! But it contains all the essential features you've come to expect from more costly spreadsheets. Along with some unique, added capabilities like variable cell/column widths, powerful keyboard macros, a "find" command, and more.

Access Lotus™ data no matter where you are.

Numbers Up is everything Lotus users have been waiting for. It reads and writes files in the same format as Lotus 1-2-3® (all versions). So facts and figures you create in either program are fully interchangeable. You can view a Lotus worksheet through Numbers Up — while you are working on another in Lotus. Then cut and paste the data from one into the other. All without changing programs.

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More data means quicker decisions. Numbers Up is fully compatible with Lotus 1-2-3. Now view and use information from one or more Lotus worksheets.

TO: Jack Thorndale (VP Sales)
FROM: Roger Elliott (President)
DATE: 7/15/88
TO: Jack:

Here are last years numbers. Congratulations on a job well done!

NET EARNINGS BY DIVISION

	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	TOTALS	BONUS
WORTH						
Roger B.	\$32,245	\$37,465	\$32,453	\$36,453	\$138,616	\$2,408.12
Jack B.	\$56,180	\$67,263	\$62,123	\$55,481	\$241,047	\$1,769.36
TOTAL	\$88,425	\$104,728	\$94,576	\$91,934	\$379,663	
WORTH						
Roger B.	\$37,465	\$32,453	\$36,453	\$32,245	\$138,616	\$2,408.12
Jack B.	\$62,123	\$55,481	\$56,180	\$67,263	\$241,047	\$1,769.36
TOTAL	\$99,588	\$87,934	\$92,633	\$99,508	\$379,663	

COMMAND: Copy Delete Format Gallery Help Insert Join Library
Options Print Quit Replace Search Transfer Undo Window
Exit document or press Esc to use menu

Words and numbers speak louder than words alone. Moving figures back and forth is now as simple as cut-and-paste. Microsoft Word shown above.

Numbers Up lets you vary the size of each individual cell or range of cells — giving you the power to design the form you want your data in right on screen.

Numbers Up™

The companion spreadsheet that puts numbers where you need them.

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(depending on memory); mix boldface and italics in different cells for emphasis; or work with one of 44 predesigned business graphs (charts). While it's not a 1-2-3 clone, *Excel* acknowledges the standard by reading and writing 1-2-3 format files, giving you across-the-board compatibility. Reviewed March 1988.

—SAM

Microsoft Corporation, (206) 882-8080. Requires: 640K; 80286 or 80386 microprocessor; hard-disk drive; DOS 3.0 or higher.

Quattro v1.0 (\$249). Will do everything Lotus 1-2-3 will do and more—at less than half the price! Among its noteworthy features are "minimal recalculation"—when a single cell is changed, *Quattro* recalculates only those figures that are dependent on the changed cell. A macro recorder records any actions or commands you perform and allows you to execute them with a single keystroke. *Quattro*'s 11 different graph formats (all of which can be printed directly from the worksheet) also put *Quattro* head and shoulders above 1-2-3. Reviewed March 1988.

—SAM

Borland International, (408) 438-8400. Requires: 384K; two drives.

SuperCalc 4 v1.0 (\$495). This basic spreadsheet is made special by its menu structure and macro recorder. The menus, which look similar to Lotus 1-2-3's, make more sense. For instance, to load a file you just type: /LOAD, (filename); or just plain /L, (filename). To use the macro recorder, simply turn it on, perform the operations you want to record, and turn the recorder off. You don't actually have to program the macro, as you do with Lotus 1-2-3. *SuperCalc 4* is easy to use, has superb color graphics (especially in the IBM PS/2 version), and the publisher is known for service and dependability.

—PC

Computer Associates International, (800) 531-5236; (408) 942-1727. Requires: 512K; two drives (hard-disk drive recommended).

VP-Planner Plus v2.0 (\$180). This enhanced spreadsheet works like Lotus 1-2-3, yet includes such extras as a built-in text editor for word processing and report generation, larger worksheets, and a unique multidimensional database facility. With the latter function, any worksheet can possess up to five dimensions; this lets you construct sophisticated data structures in which you can store, retrieve, and consolidate information from literally hundreds of worksheets at the same time. Reviewed July 1988.

—AG

Paperback Software International, (415) 644-2116. Requires: 384K; two drives (hard-disk drive recommended); CGA, EGA, VGA, or Hercules (for graphs).

MACINTOSH

MacCalc v1.2 (\$139). While it doesn't have quite as many features as does *Excel*,

MacCalc outdoes it in three respects. It has greater speed in calculating, more than one font per worksheet, and a much lower price. But there's no graphing function.

—DH

Bravo Technologies, (415) 841-8552. Requires: 512K; two drives optional.

Microsoft Excel v1.5 (\$395). *Excel* on the Macintosh is easy for beginners to use, but filled with features for you to grow into as your skills increase. Choice features include easy linking among cells in different worksheets, complete business graph support, and the ability to read and write both Lotus 1-2-3 and *Multiplan*-compatible worksheets. The design is elegant, making the program a pleasure to use.

—DH

Microsoft Corp., (206) 882-8080. Requires: 512K; two disk drives recommended.

APPLE II

SuperCalc 3a v1.0 (\$195). This program does everything you would expect a spreadsheet to do and does it all gracefully. For instance, when you enter dates into a worksheet, the program automatically figures the time elapsed between entries. The graph function lets you prepare eight different kinds of charts from your figures. Whether you're a spreadsheet rookie or a number-crunching veteran, you'll like the copious documentation because it's clearly written and free of jargon, with plenty of screen illustrations to show you the way. Reviewed November 1986.

—SAM

Computer Associates International, (800) 531-5236; (408) 942-1727. Requires: 128K; enhanced ROM; two drives.

FINANCIAL MANAGEMENT

You can organize your personal and business finances with a spreadsheet and database if you know how to structure them properly, but dedicated financial-management programs are predesigned to receive and handle data in a way that makes sense. There are four main types of financial-management programs—checkbooks, personal finance, accounting, and tax preparation—and it's not necessarily an either-or decision among them. Choose:

- A checkbook program if you merely want a computerized check ledger to help track spending and categorize it for preparing tax returns.

- A personal-finance program if you want to keep records on a variety of accounts, such as checking, savings, and brokerage accounts and also project future earnings.

- An accounting program if you are running a business and need to prepare invoices or bills for clients.

- A tax-preparation program if you'd prefer to do your taxes yourself, but want the same kind of structure a live tax-preparer

SOFTWARE

would offer.

Note that, unlike many other types of software applications, financial-management packages are usually available for all three systems.

IBM/MS-DOS

Back to Basics: Professional v2.0 (\$199).

The latest incarnation of the *Back to Basics* small-business accounting series is best suited for either professionals or service businesses that carry little inventory. The four modules are General Ledger (GL), Accounts Payable (AP), Accounts Receivable (AR), and Invoicing (IN). The GL helps you with checks and cash; AP can divide a single payment among 15 (or fewer) accounts. The AR module automatically takes information from the IN module which includes invoice formats for several types of businesses. While the publisher insists that this package is for "users with little or no accounting background," it's a good thing the documentation is complete, since basic, double-entry bookkeeping is not yet a natural task for most people. —DH

Peachtree Software, (800) 247-3224; (404) 564-5800. Requires: 128K; two drives (hard-disk drive recommended).

Dac Easy Light v1.0 (\$70). If you're phobic about accounting and have been burned before by programs that promise to "make accounting simple," take heart. *Dac Easy Light* really is a program for nonaccountants. If trying to keep good records has been the bane of your office existence, this is the program for you. The most outstanding feature of *Dac Easy Light* is its ability to analyze the financial health of your business. Using the program's various reports, you can spot problems in time to solve them. Reviewed August 1988. —SCM

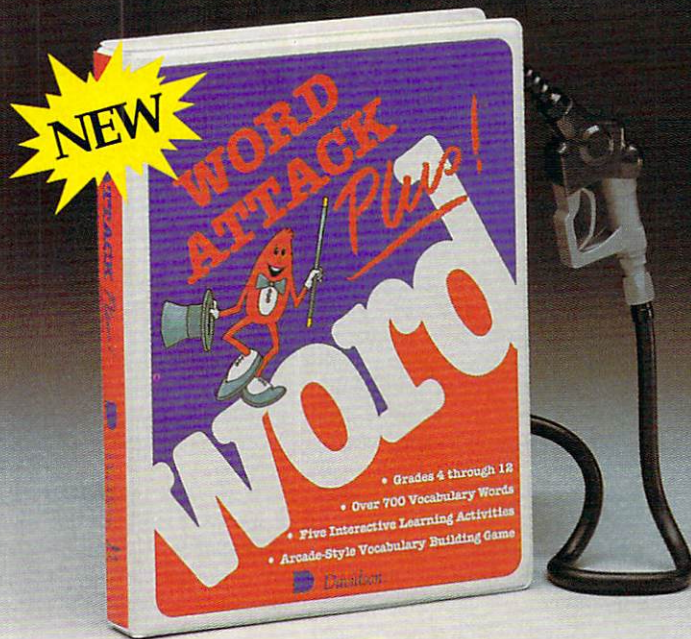
Dac Software, Inc., (214) 248-0205. Requires: 256K; two drives.

Dollars and Sense v3.1 (\$180). See description of Macintosh version below.

Monogram Software, (213) 533-5120. Requires: 256K; two drives.

Javelin Plus v2.0 (\$395). Although it contains a full-blown spreadsheet, *Javelin* is not confined to worksheets alone. The spreadsheet is only one of 10 perspectives, called "Views," for analyzing business and financial problems. Say, for instance, you've set up a model of your company's sales history and projections for the coming year. In addition to the standard spreadsheet View (the Worksheet), you could examine your data via the Diagram (a flowchart showing the relationship of variables such as cost and margin), Chart (a bar chart representing the values of a single variable), Errors (a listing of incorrectly written formulas), and Graph (such presentation-quality graphs as line, bar, and pie)—among others. *Javelin Plus* accepts formulas written in plain English

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Teaching Tools From Teachers

FC 9/88

and lets you link several worksheets. The program is an information storehouse. *Javelin v1.1* reviewed May 1988. —HB

Javelin Software Corp., (800) 528-3546; (617) 494-1400. Requires: 512K, two drives; CGA, EGA, VGA, or Hercules.

Managing Your Money v4.0 (\$220). From Andrew Tobias, author of *The Only Investment Guide You'll Ever Need*, MYM is a fluid money-management program that will track whatever monies and investments you've got. You can use it to print checks and keep a ledger, but it's best suited for people who have money tucked away in several places and want a centralized record. The program includes a Tax Estimator, which can be used to help set monthly spending budgets for the year. But you'll only benefit from this part of the program if you are vigilant about keeping good monthly records all year long. The documentation is thin but unnecessary, as extensive help screens written with style will keep you on track. —NS

MECA Ventures, Inc., (203) 226-2400. Requires: 256K.

Quicken v2.0 (\$50). This intelligently designed finance program is easy enough to start using in minutes, yet powerful enough to completely organize both personal and small-business finances. You begin with a system as simple as a checkbook—the on-screen blank checks and check register are just like your pen-and-ink system. If you want, *Quicken* will print out checks on your printer (you'll need special pin-feed checks printed) and balance your checkbook. But the features that retrieve and report on your financial information are key here. It's a snap to categorize transactions in meaningful ways for budgeting and tax record keeping (such as all deductible expenses for your office). The program will even remind you when payments are due (MS-DOS version only, with hard-disk drive). *Quicken* doesn't have some of the extras included in more complex (and more expensive) financial-management packages, such as graphing and financial calculation capabilities, but it provides all the record tracking many people need. —SAM

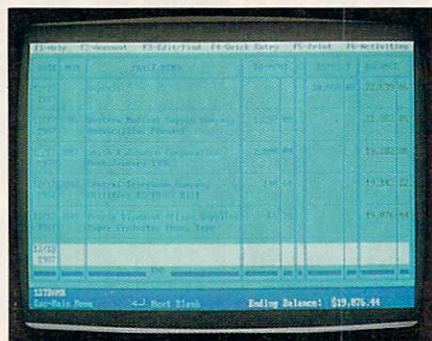
Intuit, (800) 624-8742; (415) 322-0590. Requires: 256K; one drive.

MACINTOSH

Back to Basics: Professional v1.0 (\$199). See description of MS-DOS version above.

Peachtree Software, (800) 247-3224; (404) 564-5800. Requires: 512K; two drives (hard-disk drive recommended; required for 512K Macintosh).

Dollars and Sense v4.0 (\$150). Combines straightforward ease of use with enough flexibility and power to support the accounting needs of a small business. Includes a full range of personal accounting and analy-



Quicken is set up like a checkbook and is not much harder to use.

sis features, such as automatic double entry, "what-if" analysis, sorting, check printing, and a complete set of predefined financial reports. What I like about *Dollars and Sense* is that it allows novices to pick up and use its features and capabilities as they become progressively more comfortable with the program. —CG

Monogram Software, (213) 533-5126. Requires: 512K; two drives.

MacInTax v1.0 (\$119). There's nothing like *MacInTax*—the only tax-preparation program that shows the actual Internal Revenue Service forms and schedules on-screen; it also prints them out (including the 1040) so that they're acceptable by the IRS. On-line instructions for almost every line of every form and schedule (just double-click where you need help) also make this program less taxing to work with than its competition. —DH

SoftView, (800) 622-6829; (805) 388-2626. Requires: 512K; two drives (hard-disk drive).

MacMoney v3.0 (\$120). Personal accounting and financial planning are the highlights here. You can create budgets; manage your checking, savings, and credit-card accounts; monitor your assets and liabilities; and print checks, reports, and graphs. You don't have to be a bookkeeper to use it either; I learned the program in half an hour, and on-line help is available as needed. Reviewed June 1987. —MS

Survivor Software, Ltd., (213) 410-9527. Requires: 512K; two drives.

Managing Your Money v1.0 (\$220). See description of MS-DOS version above.

MECA Ventures, Inc., (203) 226-2400. Requires: 512K; two drives.

Quicken v1.0 (\$50). See description of MS-DOS version above.

Intuit, (800) 624-8742; (415) 322-0590. Requires: 512K; one drive.

APPLE II

Managing Your Money v3.0 (\$150). See description of MS-DOS version above.

MECA Ventures, Inc., (203) 226-2400. Requires: 128K; two drives.

Quicken v1.0 (\$50). (See description of MS-DOS version above). Checkbook data can be transferred to an *AppleWorks* spreadsheet for further financial manipulation.

Intuit, (800) 624-8742; (415) 322-0590. Requires: 128K; one drive (two recommended).

DATABASES

Five years ago, database programs were superb electronic filing systems, but they required that users possess a fair amount of skill in order to produce usable results. Today, data can be entered in a less rigid fashion and pulled out in more ways. In addition, databases can perform mathematical computations.

A wide array of software for managing information comes under the database heading, including:

- File managers, also called flat files (which are like index cards). These most basic of all databases are perfectly fine for cataloging such common information as names and addresses for mailing lists or any other type of data that lends itself to a list format.

- Relational databases, which let you set up complex cross-connections among files. For instance, a mail-order company might want to tie together product inventory, customers, orders, back orders, and billing information from separate files. Many—but not all—relational database managers come with their own programming language for complete customizing.

- Free-form file systems don't require that you enter data in rigid fields or that you search by fields. They are particularly good at handling a diverse group of notes, which makes them especially useful to educators, researchers, and writers.

FLAT-FILE & FREE-FORM DATABASES

IBM/MS-DOS

AskSam v4.0 (\$295). *AskSam* is a very accessible, free-form database. You insert information into each record in any order you want, without setting up fields. To retrieve information, just ask for all records that contain a certain word or phrase. If the word or phrase appears anywhere in the record, *askSam* pops it onto the screen. For people who feel restricted or annoyed by structured databases, *askSam* is a breath of fresh air. Reviewed June 1986. —PC

Seaside Software, (800) 327-5726. Requires: 256K.

Nutshell v2.0 (\$150). I hated databases before I discovered *Nutshell*. With *Nutshell*, I could suddenly design a database in no time and refine it at will without losing any of my earlier work. Even more important, I

PREMIUM.

pre'mi·um (pre'·me·am) *adj.* 1) very high value. 2) top grade. 3) highest quality possible.



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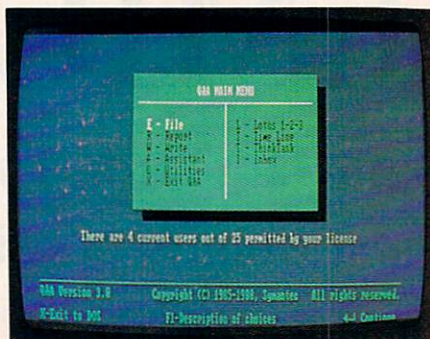
could quickly and almost effortlessly set up and format a report—in final form. While *Nutshell* is a flat-file database, it is so flexible that its inability to link multiple databases has never been a problem for me. Reviewed August 1987. —SCM

Claris Corp., (415) 962-8946. Requires: 256K (320K with DOS 3.0 or higher); two drives.

PFS: Professional File v1.0 (\$219). This database offers flexible data organization, entry, and retrieval without sacrificing such important features as variable records that can run on for 32 pages (with up to 100 fields per page). It lets you include a screenful of data in a single field, which makes this database ideal for organizing blocks of text, such as notes for a proposal or even a whole book. Also included is a macro capability for replaying lengthy keystroke sequences automatically. The on-line help is so good, you'll need to look at the manual only once. Reviewed March 1987. —SAM

Software Publishing Corp., (415) 962-0191. Requires: 256K; two drives.

Q&A v3.0 (\$349). As an essentially menu-driven, flat-file database that's very well integrated with a fine word processor, *Q&A*



Q&A is a database that understands "plain English."

makes it easy to extract information with its "Intelligent Assistant" (IA). The IA understands plain English, so you could ask it to "Show me Harry's September sales, returns, and commission." And since the program is "intelligent," you can teach it whatever words are convenient for your particular needs. Also, while only one file can be open at a time, *Q&A* allows for up to 16 million records (256MB) per file with as many as 2,182 fields per record! A form can be up to 10 screens long. And it lets you

link files, giving you some of the function of a relational database. To be reviewed October 1988. —HB

Symantec Corp., (408) 252-5700. Requires: 512K; two drives (hard-disk drive recommended).

RapidFile v1.0 (\$295). Like *Q&A*, *RapidFile* combines a flat-file database with a word processor. No single quality makes it outstanding—just its superb combination of features and ease of use. For instance, you can store up to a 10MB file with as many as 64,000 records. Each record can hold up to 7,500 characters in as many as 250 fields. If the text in a field exceeds 254 characters (such as detailed information about a customer's preferences), the program will let you store up to 64,000 characters (more than 100 single-spaced pages) as a special memo. And if you need to, you can read or write files compatible with *Lotus 1-2-3*, *PFS: Professional File*, *dBase II*, *dBase III*, and *Framework II* among others. *RapidFile* is strong software. Reviewed September 1987. —TM

Ashton-Tate Corp., (213) 329-8000. Requires: 256K; two drives (hard-disk drive optional).

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MACINTOSH

FileMaker II v4.0 (\$300). Flexible on-screen and printed forms—which allow you to view your data in various ways and can include graphics—are just one of the strengths of this well-designed, flat-file database program. A feature I find very attractive are the pop-up lists you can create for entering data into specific fields. Just click on the item you want entered—such as “green” in a list of color descriptions—and it’s there. For those who have more than one Mac hooked up on an AppleTalk network, *FileMaker 4* can be shared with no extra hardware. Supplied database templates help beginners get up to speed quickly, and toll-free phone support helps everyone.

—DH

Claris Corp., (415) 962-8946. Requires: 1MB; two 800K drives (hard-disk drive recommended).

HyperCard v1.2 (\$49; or free with Macintosh). Although not the typical free-form database, the protean *HyperCard* can serve the purpose well. Its search function (always a key for any database) is fast and fluid. You might have to learn the built-in HyperTalk language to make *HyperCard* work



HyperCard has a fast, fluid search function.

exactly as you wish, but it’s probably the easiest programming language around. This latest version supports CD-ROM drives for access to megabytes of data on a compact disc. Reviewed December 1987. —DH

Apple Computer, Inc., (408) 996-1010. Requires: 1MB; two drives (hard-disk drive recommended).

OverVUE v2.1e (\$295). Sometimes simpler is better. Even though *OverVUE* limits your data structure of records and fields to rows and columns (as contrasted to most Macintosh databases, which let you put data

in various forms), most lists are best viewed that way anyway. It’s also the fastest database I’ve seen on the Mac, since both the data and the program itself are in memory at all times. I love the “clairvoyance” feature. When entering data, should the particular entry already exist in the same field in a previous record, *OverVUE* will automatically suggest it for you as you start to type. This saves time and reduces chances for error—computing at its best.

—DH

ProVUE Development Corp., (714) 969-2431. Requires: 512K; two 800K drives.

APPLE II

Softwood GS File v2.0 (\$100). The mouse-driven, pull-down menu interface turns database creation and maintenance into an enjoyable task. Includes such helpful features as predefined fields (such as Phone or Date), two on-screen views (list or column), and a report function for printouts. The manual is clearly written, and the program can read database files created with *AppleWorks*. Reviewed March 1988.

—JZ

SoftWood Company, (805) 964-8622. Requires: 768K (HGS only).

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RELATIONAL DATABASES

IBM/MS-DOS

DBase III Plus v1.1 (\$695). The latest version of this granddaddy of relational databases—which allows you to link up to 10 files together—is much easier to use than previous versions. Although it's not a simple program to operate (eventually you must learn the *dBase* programming language), the Assistant mode allows you to run most of the program's functions from a menu system. For instance, you could sort any file. If you want, you can forego the Assistant and just use the command line. Because of its popularity and installed base, you can always find help with this program. An upgrade (*dBase IV*) is in the works and should be released later this month. —PC

Ashton-Tate Corp., (213) 329-8000. Requires: 256K (384K recommended); two drives.

DBXL v1.2b (\$199). The only database program on the market that's truly 100-percent compatible with *dBase III Plus* is *DBXL*. It gives you all the same functions as *dBase* and more. Intro, *DBXL*'s menu system, is more intuitive and better organized than *dBase*'s Assistant. For example, after adding records to a database file, Intro asks you if you want to index the file for sorting, in contrast to *dBase*, which makes indexing a separate step. Like *dBase*, *DBXL* also shows you the commands as they are formed from the menus. At one-third the price of *dBase III Plus*, *DBXL* is a bargain. —PC

Word-Tech Systems, (415) 254-0900. Requires: 512K; two drives.

MACINTOSH

Reflex Plus v1.0 (\$279). Much of the effort in putting together a powerful, relational database is eliminated here by the Mac's graphic interface. When you want to relate a field in one file to a field in another file, all you have to do is draw a line between the two. No database scripting or programming is available (as in *dBase III Plus*), so if you want to create stand-alone applications for other people to use, you'll have to look beyond *Reflex Plus*. But if you're just setting up a database for your own office, this one shines. Reviewed July 1988. —JL

Borland International, (800) 543-7543; (408) 438-8400. Requires: 512K; two drives (hard-disk drive recommended).

COMMUNICATIONS

Five years ago, communications software was a minefield of mumbo jumbo: baud rate, parity, duplex, and protocol settings. Today, the best communications packages insulate you from these details by automating as many of the steps as possible for

going on-line, sending and receiving data, and capturing text that appears on-screen. When shopping for communications software, look for the following features:

- A recording function that captures all the keystrokes (and mouse movements, where appropriate) executed when you go on-line, then replays them at the touch of a keystroke or mouse click.

- A good text editor for creating messages while on-line.

- On-line help screens, which are especially important for novices.

- Menus for controlling the program, with optional commands to speed up control as you grow more knowledgeable.

- Emulation of various terminal types, useful if you need to connect with mainframe computers.

IBM/MS-DOS

Freeway v2.2 (\$60). *Freeway* is a perfect program for beginners. The documentation, help screens, and menus make the process of going on-line as painless as possible. The program also includes extras such as an autopilot mode (for automating telecommunications procedures), a page editor, and a line editor. These last two are not necessary, but they make telecommunications easier if you like to write notes on-line. Note that *Freeway Advanced*, from the same publisher, is not as easy to use. Reviewed May 1988. —PC

Kortek, Inc., (800) 327-0310; (415) 327-4555. Requires: 320K; CGA, EGA, or Hercules.

ProComm Plus v1.1a (\$75). The first commercial version of a former shareware success has been finely polished. Beginners can use a menu system, then jump to commands as they become comfortable. A record function automatically captures each step needed to log-on to a service or bulletin board. You can invoke this sign-on process by pressing a single key. The host mode allows outsiders to send you files when you're not there. Virtually every file-transfer protocol is supported. I'd recommend *ProComm Plus* to anyone, beginner to expert. To be reviewed October 1988. —PC

Datastorm Technologies Inc., (314) 474-8461. Requires: 192K; two drives optional.

MACINTOSH

InTalk v3.0 (\$195). Extensive commands that can be recorded when you're just starting off or written from scratch once you're more proficient give this program depth. Convenience features I like are an on-screen timer for each on-line session and the ability to append incoming text to an existing file. It's relatively easy to connect *InTalk* to a variety of computers. However, learning to use it well will take some time. To be reviewed October 1988. —SAM

Palantir Software, (713) 955-8880. Requires: 512K.

MicroPhone II v1.0 (\$295). From its first release, *MicroPhone* emphasized ease of use. Once you've recorded the procedures (a simple process), any step in a telecommunications session can be accomplished by one of three methods: choose from a standard Mac pull-down menu, click on an on-screen button, or press a Command-key/letter-key combination. Yet, *MicroPhone* never sacrificed power for that ease—it's feature laden. Original release reviewed July 1986. —DH

Software Ventures Corp., (415) 644-3332. Requires: 512K.

APPLE II

MouseTalk v1.5 (\$120). Combines the mouse-based convenience of pull-down menus and point-and-click commands with excellent text handling. It's relatively simple to construct files that will dial and sign on to any on-line service, but they do have to be constructed (not recorded). It can emulate a range of telecommunications terminals. All in all, I couldn't find anything I wanted to do with my modem that *MouseTalk* didn't execute with a minimum of fuss. Reviewed July 1987. —SAM

United Software Industries, (818) 887-5800. Requires: 128K (Ile enhanced ROM); mouse recommended; two drives optional.

Point-to-Point v2.1 (\$129). *AppleWorks*-like menus that make it easy to go on-line and to send and receive data make *Point-to-Point* my favorite communications program for the Apple II. And now that it finally has a "record" mode for creating on-line procedures, you no longer must write them from scratch. Reviewed March 1987. —DH

Pinpoint Publishing, (415) 654-3050. Requires: 128K.

INTEGRATED

Five years ago, integrated packages were few and far between, and most gave you diluted versions of stand-alone programs so they'd fit into one program. Today, one of these workhorses may be the only productivity package some people will ever need. All include a word processor, spreadsheet, and database manager; some also add graphing and communications modules. Any good integrated package gives you more than a grab bag of programs; sharing data among applications should be almost as easy as transferring text within a single program. When shopping, look for:

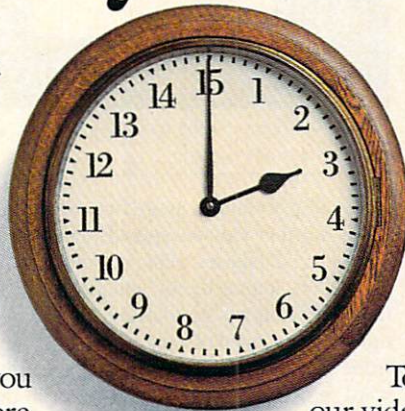
- Consistent commands across the applications.

- Complete modules that are not severely truncated to fit the package. For example, the spreadsheet shouldn't skip such important financial functions as present value (PV) and future value (FV). Beware the

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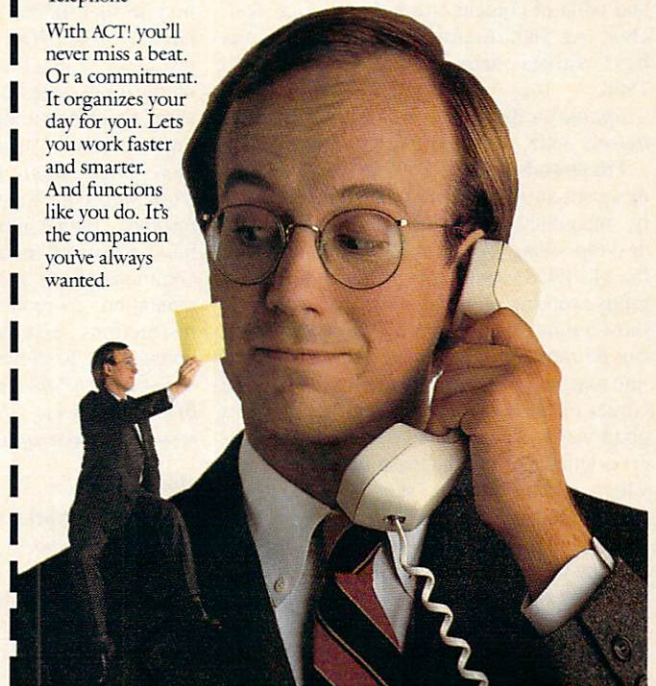
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potential pitfall of "Jack-of-all-trades, master-of-none."

• Power in the application you plan to use most. For instance, if you're primarily interested in word processing, don't buy a program whose strength is its spreadsheet.

IBM/MS-DOS

Ability Plus v1.0 (\$259). Five modules—word processor, spreadsheet, business graphics, database, and communications—plus Presentation. This special utility lets you organize screens from *Ability* applications into a computer slide show. Integration of data is excellent: Files can be linked so that updates made to a spreadsheet segment that's part of a word-processing document, for instance, will also be made to the spreadsheet file itself. Moving-bar menus make it easy to get around, and you can "flip" instantly between any two applications. Many users will discover that *Ability Plus* is all the productivity software they need. Reviewed December 1987. —TS

Migent, Inc., (800) 633-3444; (702) 832-3700. Requires: 384K; two drives; CGA, EGA, VGA, or Hercules recommended.

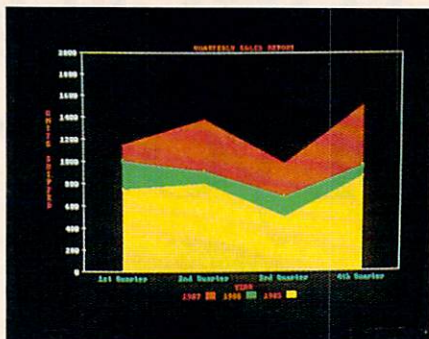
Better Working Eight-in-One v1.0 (\$60). With more modules than most integrated packages, *Eight-in-One* is an excellent choice for beginners or those with moderate requirements. Besides the typical modules, there's a spelling checker, outliner, and desktop utilities (calendar, address book, and memo pad). They all integrate well, so that you can write an outline, export it to the word processor, and create a full document and table of contents from the original skeleton. At \$60, *Eight-In-One* is one of the best values around. Reviewed April 1988. —ME

Spinnaker Software, (617) 494-1200. Requires: 384K; CGA or EGA (for graphics).

Framework II v1.0 (\$695). The farsighted designers of *Framework* created a completely integrated environment—an on-screen desktop—long before that was common in the MS-DOS world. Any project you're currently working on is contained in a "frame" (now commonly called a "window") that can be moved, sized, overlapped, or closed into one of a stack of "file folders" in a corner of the screen. "Nesting" frames is a good way to keep related documents together: a letter and the database of addresses to which it will be sent, say; or a memo, a calculated table (spreadsheet) that you present in the memo, and a graph derived from the spreadsheet. Nesting is also the basis for the program's addictively useful outlining capability. To *Framework*, an organized collection of frames of any sort is an outline. —LP

Ashton-Tate Corp., (213) 329-8000. Requires: 384K; two drives.

Microsoft Works v1.0 (\$195). A master-



Better Working Eight-in-One gives you eight modules for \$60.

piece of integration, with five strong modules—word processor, spreadsheet, business graphics, database, and communications. To switch among them, you simply open a file; *Works* allows up to eight files open at a time. Once opened, data may be copied from one file to another with a straightforward procedure. You can use drop-down menus or just invoke commands; you can use a mouse or not. An extensive on-line help file can be loaded onto a hard disk, but each of the programs operates intuitively. Beginners will be up and running quickly on *Works*, but even experienced users who are tired of switching among programs will like it. Reviewed April 1988. —BH

Microsoft Corp., (206) 882-8080. Requires: 384K; two drives; CGA, EGA, VGA, or Hercules.

PFS: First Choice v2.0 (\$150). Although it's marketed for beginners, *First Choice* may in fact be the last choice many people have to make. With all four modules—word processor, spreadsheet, database, and communications—the user relies primarily on simple pull-down menus (although there is a limited set of "speed key" commands for more adept users). The parts of the package work well both separately and together. For instance, phone numbers contained in any file can be used to dial a modem when in the communications mode. The written documentation is a model of clarity; step-by-step instructions assume absolutely no prior knowledge. Reviewed April 1987. —TM

Software Publishing Corp., (415) 962-0191. Requires: 512K; two drives recommended; mouse optional.

MACINTOSH

Microsoft Works v1.10 (\$295). (See MS-DOS review above.) Macintosh version accepts graphics from other programs, including *MacPaint* and *MacDraw*. —TM

Microsoft Corp., (206) 882-8080. Requires: 512K Macintosh; two drives recommended.

APPLE II

AppleWorks v2.0 (\$250). "Old Faithful"

to most Apple II users, *AppleWorks* combines a word processor, spreadsheet, and flat-file database, striking a balance between ease of use and powerful features. The majority of the program is menu driven; those commands not on menus are simple to remember, such as Open-Apple-P to Print or Open-Apple-S to Save, and so forth. This latest version has added a mail-merge function for customized mailings. One flaw is the lack of a spelling checker, although add-on programs from other publishers can deliver that capability. In fact, with dozens of add-ons on the market, *AppleWorks* can accomplish almost any task a small business might require. —JD

Claris Corp., (415) 962-8946. Requires: 128K; two drives.

DESKTOP PUBLISHING

Five years ago, desktop publishing was a glimmer in some developers' eyes. At best, word-processing programs would give you side-by-side columns in a printout, but it might take you several days to get the printout to look right. Today, desktop publishing is an accepted activity. People use it in their work and build businesses around it. But what is it?

Desktop publishing is using your computer and desktop-publishing software to assemble text, pictures, and charts, arrange them in a visually pleasing manner, and print them out on a laser printer or a typesetting machine. For best results, both the software and the laser printer should support PostScript—the standard "page-description" language. (No Apple II desktop-publishing package directly supports PostScript, which is why none is listed.) A high-quality desktop publishing program should enable you to:

- Import text and graphics from a variety of sources, yet also easily create new text and certain kinds of graphics from within the program.

- Control the placement of text, including such typographical features as kerning, leading, and tracking.

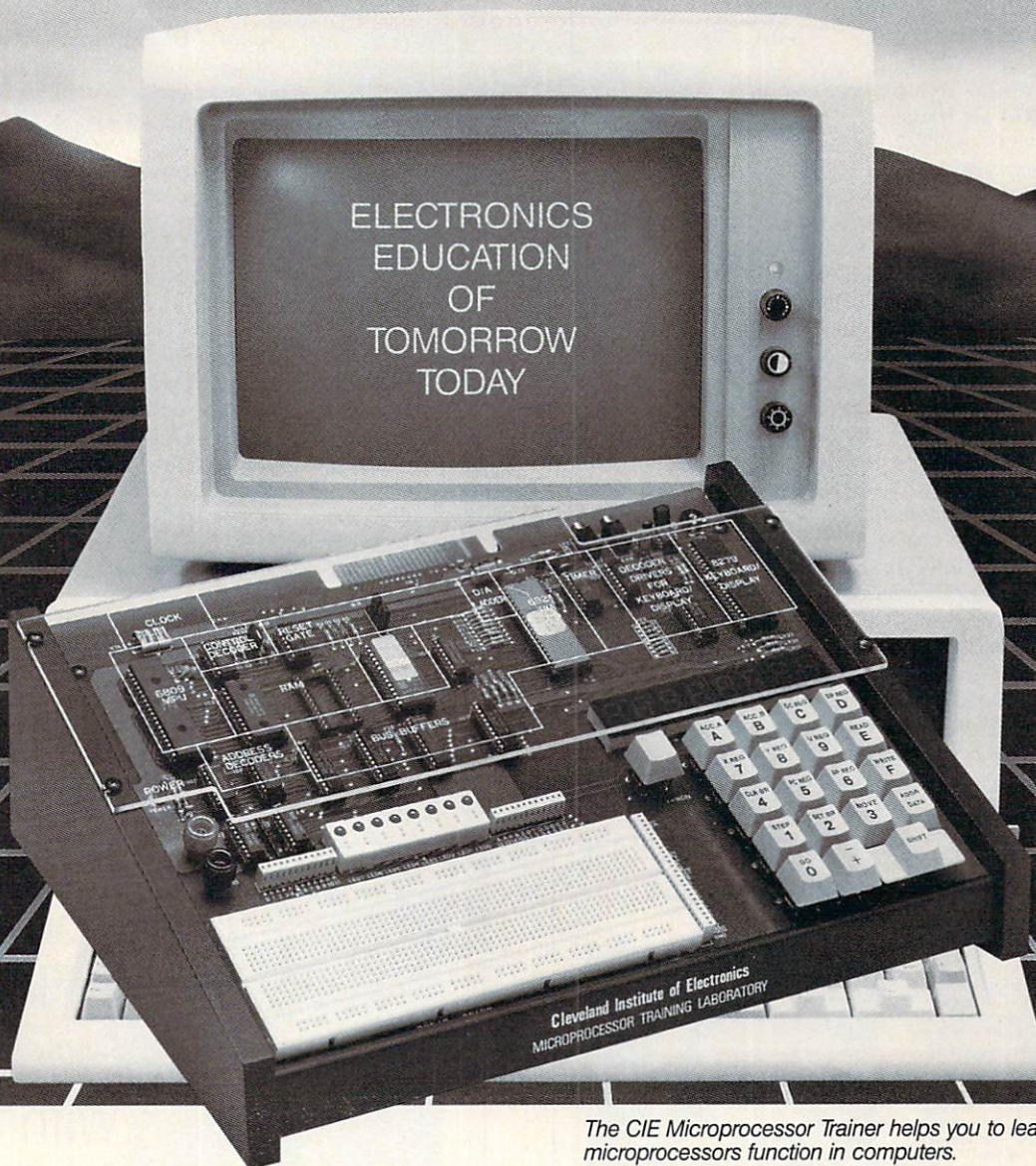
- Automatically and manually run text around an irregularly shaped graphic.

- Print your file on a PostScript laser printer.

IBM/MS-DOS

Byline v1.0 (\$295). *Byline* is easier to learn than more powerful programs, and it is more powerful than less expensive programs. That puts it in the middle—a good program for someone who needs periodic, but not daily, desktop publishing. *Byline* imports text and graphics from other programs and supports dot-matrix as well as laser printers, which gives it extra utility. It's for rodent haters, as there's no mouse

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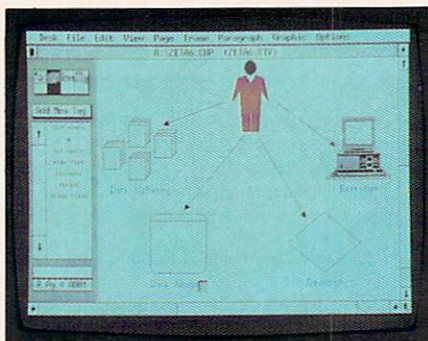
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allowed! Reviewed March 1988. —BH
 Ashton-Tate Corp., (213) 329-8000. *Requires:* 384K (512K recommended); two drives; CGA, EGA, or Hercules.

PageMaker v3.0 (\$795). The program that effectively created desktop publishing as a computer application had been showing signs of weakness in the face of stiff competition until the recent release of version 3.0 for both the Macintosh and MS-DOS systems brought *PageMaker* back to the front of the pack. *PageMaker* works much like the traditional mechanical artist's desktop: You place blocks of text or graphics into pre-ruled columns and boxes, which makes it very natural to learn. The new version adds stylesheets for consistent type specification, automatically places long documents on multiple pages, and automatically wraps text around graphics. A special feature not found in competing software is the program's extensive graphics control capability, which allows adjustment for shading and special effects within *PageMaker*. —SAM

Aldus Corp., (206) 622-5500. *Requires:* 640K; 80286 or 80386 microprocessor; hard-disk drive (20MB recommended); mouse; EGA, VGA, or Hercules.



Ventura Publisher is a leading MS-DOS desktop-publishing program.

Ventura Publisher v1.1 (\$895). *Ventura* combines excellent typographic control with a high degree of page-makeup automation to provide a superb composition system. You can place text and graphics by eye with a mouse and also fine-tune both position and sizing by specifying measurements in menu boxes, which is an unusual — and very welcome — feature. Stylesheets let you make publication-wide typographic changes in the blink of an eye and quickly produce multiple issues of a publication in an established

format. Overall speed is another positive factor to consider; while an AT-compatible or faster machine is still preferable, you can use *Ventura* on a PC or clone. —SAM

Xerox Corp., (408) 496-6511. *Requires:* 512K; hard-disk drive; CGA, EGA, VGA, or Hercules; mouse highly recommended.

MACINTOSH

PageMaker v3.0 (\$595). The standard for Macintosh desktop publishing. You can flow text automatically over several pages or around rectangular graphics. You can import stylesheets from *Microsoft Word* to control fonts, typesets, and margins or create new stylesheets right in *PageMaker*. Beginners will appreciate the 20 design templates that come in the package; they can get started immediately making reports, newsletters, and calendars. The program can read MS-DOS *PageMaker* files, and vice versa. —DH

Aldus Corp., (206) 622-5500. *Requires:* 1MB; two drives (hard-disk drive recommended; required if 512K enhanced Macintosh with 1MB memory); laser printer.

Ready, Set, Go! v4.0a (\$495). In 1985, when Apple introduced its initial Laser-

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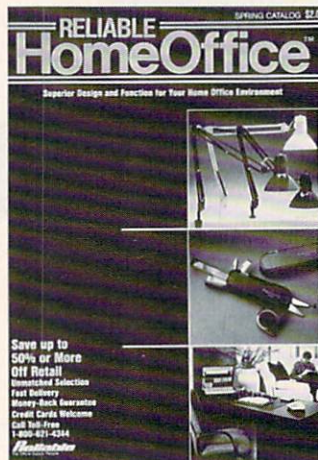
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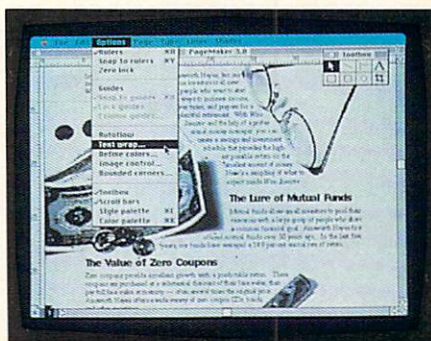
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Writer printer, the first desktop-publishing program I worked with was version 1.0 of *Ready, Set, Go!* (RSG). Even in those early days, it was an easy program to use. Each item (whether text or graphic) went into its own "block" on the screen, and the block could be positioned with either the mouse or more precisely from a menu. It felt natural and intuitive, and I wound up with some pretty good-looking pages on the first day. RSG has evolved well, and version 4.0a includes such useful features as stylesheets, an extensive selection of graphic-fill and line patterns, and support for most text and graphic file formats. Note that RSG is the only Mac desktop-publishing package that doesn't require a hard-disk drive, will run with less than 1MB of memory, and can use an ImageWriter printer (helpful for test prints). —DH

Letraset USA, (201) 845-6100. Requires: 512K; two drives (hard-disk drive optional).

Quark XPress v2.0 (\$795). So far, the only Mac desktop-publishing package that supports color, both on-screen with a Mac II and for printouts as well. In addition to the color, my favorite features include the word-processor quality writing tools (with



PageMaker is a popular Macintosh desktop-publishing program.

search-and-replace, a spelling checker, and automatic hyphenation) and the ease with which it wraps text around irregularly shaped graphics. —DH

Quark, Inc., (303) 934-2211. Requires: 1MB; two drives (hard-disk drive recommended); laser printer.

PRESENTATIONS

Five years ago, a computer presentation was a sharp letter-quality printout, which in

truth looked no different from a typewriter printout. Today, a computer presentation can be one of any number of eye-catchers: a printout with color graphics; a custom slide with your own caption; an overhead transparency with charts and texts. A full-fledged presentation program should:

- Create basic business graphs, such as pie charts, bar charts, and line charts.
- Create "bullet" graphics, as in this list.
- Create organizational charts to show some hierarchical situation.
- Create basic visuals with a paint or drawing module.
- Let you set up on-screen "slide shows" of individual graphics.
- Include a library of special visual symbols, such as pointing arrows, maps, and geometric shapes.
- Output to various devices, including laser printers, color printers, plotters, and film recorders (such as the Polaroid Palette) to create slides.
- Output in a format acceptable by a graphics service bureau—a business that uses high-tech equipment to produce your graphic in the form that you wish, such as a slide or an overhead transparency.

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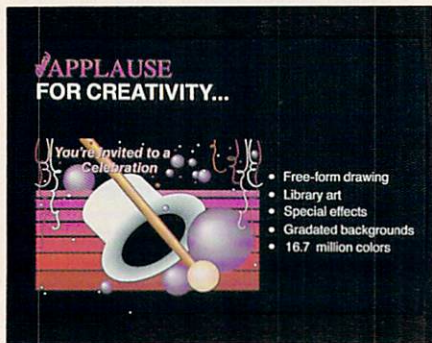
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IBM/MS-DOS

Draw Applause v1.0 (\$495). While Ashton-Tate has sold separate presentation packages in its *Master Graphics* series (*Chart-Master*, *Sign-Master*, *Diagram-Master*, and *Map-Master*), their new *Draw Applause* program lets you combine business graphs, text, and drawings for striking color presentations. The publisher even offers its own graphics service for reasonably priced



Draw Applause creates presentations on slides, prints, or transparencies.

color 35mm slides, color prints, overhead transparencies, and black-and-white thermal prints. You can submit materials via modem or on a mailed floppy disk. That's a unique service from a software publisher. —DH

Ashton-Tate Corp., (213) 329-8000. Requires: 640K; EGA or VGA.

Harvard Graphics v2.1 (\$495). This program's the easiest I found for a beginner to use to obtain quick and pleasing results. It includes a library of visual symbols (such as shapes, boxes, and maps) and also accepts input directly from a digitizer. You can link charts to Lotus 1-2-3 worksheets. You can create "slide shows" for on-screen presentations that feature such cinematic transitions as fades and wipes. The program supports a variety of printers, plotters, and film recorders for advanced presentations. And, to help save you from embarrassment as a presenter, a spelling checker is included. —RR

Software Publishing Corp., (415) 962-8910. Requires: 512K (640K recommended); two drives (hard-disk drive recommended); CGA, EGA, or VGA.

Microsoft Chart v3.0 (\$395). Once you master this difficult-to-learn but easy-to-use chart program, making business graphs is almost as simple as turning on your computer. One of *Chart's* best features is the mouse support; especially useful, for example, if you want to change the size of the chart title. Just point to the title and press the mouse button, then move the pointer to the format command and press the button. Now you can enter the point size, or you can switch to a different font. Although *Chart* does not do all that a full-fledged



Harvard Graphics is a good presentation program for nonartists.

presentation program does, it makes charts so well that it can't be ignored. —SC

Microsoft Corporation, (206) 882-8080. Requires: 320K; two drives; CGA, EGA, or Hercules. Mouse optional.

MACINTOSH

Cricket Presents . . . v1.0 (\$495). With up to 64 colors per presentation (on a Mac II), *Cricket Presents* . . . is an ideal tool for creating slides, color prints, and striking overhead transparencies (black-and-white or color). If you don't own expensive output equipment to produce these materials (such as a \$2,000 Polaroid Palette), rest assured that the program is supported by most graphics bureaus. —RR

Cricket Software, Inc., (215) 251-9890. Requires: 1MB; hard-disk drive.

Microsoft PowerPoint v2.0 (\$395). This presentation package includes a library of oft-used tables and charts, so you can plug your data into predesigned formats. *PowerPoint* supports a variety of output devices, and in turn, a number of graphics bureaus support it, so you can produce your materials in color even if you don't have a Macintosh II. It even supports the almost infinite variety of colors available on a Mac II. The publisher must think it has the program down pat, because it's the first program I've seen in a long while with a manual in hard-cover. —DH

Microsoft Corp., (206) 882-8080. Requires: 1MB; two drives (hard-disk drive recommended).

VideoWorks II v2.0 (\$195). The ability to create animation sets this program apart from most others in the presentation field. You can include sound and color (on a Mac II) with your animated images. You can also make slide shows using *MacPaint* or *MacDraw* images, complete with animation and sound; or you can use images created with *VideoWorks II's* built-in paint program. Clip art, clip animation, and on-disk tutorials are part of this solid package. —DH

MacroMind, Inc., (312) 871-0987. Requires: 512K; two drives (hard-disk drive optional).

APPLE II

ShowOff v1.1 (\$60). Create sophisticated-looking slides, transparencies, and printouts with exceptional ease on an Apple IIGS. Choices include graphs (bar or pie charts), 3.5-inch stickers (prepared graphics, including the option to select from *Print Shop* disks), icons (fancy alphabet letters and symbols), borders, and fonts. For those with artistic talent, the toolbox provides all that is necessary to create original color graphics, and the icon editor allows customization. An ImageWriter II printer with a color ribbon provides brilliant results. Alternatively, an automatic computer slide show can be easily set up. *ShowOff* can even control your 35mm slide projector. —JZ

Broderbund Software, (415) 492-3200. Requires: 512K (IIGS only); color monitor.

DESK ACCESSORIES

Five years ago, almost no computer had enough memory to hold desk accessories (DAs), and people had other ways to spend their time anyway, like figuring out how to make their printers work. Today, with larger memories, widespread use of hard-disk drives, and the ability of the Macintosh operating system to directly access a number of programs, DAs are widely used. They are called memory-resident programs (or TSR—terminate-and-stay-resident—programs) in the MS-DOS world, and all can be called up while you're working within another application. Software in this category was designed originally to replace common items found on a desk, such as appointment calendars. Nowadays, desk accessories can do just about anything—word processing, spreadsheeting, or telecommunications, to name just a few tasks. Since the Macintosh is designed to use desk accessories, there's nothing special to look for (other than making certain you have enough disk space to hold some of the larger DAs), but when shopping for an MS-DOS accessory, make sure that:

- You have enough memory (RAM) to make use of a given program.

- The program doesn't conflict with other memory-resident programs you might use.

IBM/MS-DOS

Lotus Metro v1.1 (\$85). The great virtue of this memory-resident accessory package is that it only takes up 64K of memory. If you have a hard-disk drive, *Metro* uses a technique called Swapper to move the module (or part of it) you want into and out of memory, leaving the bulk of your memory for another program and its files. Appointment, Phone Book, Filer, Calculator, Notepad, Editor, and List Manager are the main programs. A Clipboard moves data from one accessory to another and also transfers

SOFTWARE

data from one application program to another. For some users, that feature alone could be the key selling point. —NS

Lotus Development Corp., (617) 623-6572. *Requires: 320K; two drives (hard-disk drive recommended).*

SideKick v1.56 (\$85). All five modules—the Notepad, Calculator, Calendar, Dialer, and ASCII Table—are easy-to-use programs that can be open on-screen at once. You can clip data from the Notepad to other programs. I mainly use the Notepad, Calculator, and Calendar, and, believe me, I will never give up *SideKick*—it keeps my desk clean and my mind organized. —PC

Borland International, (408) 438-8400. *Requires: 256K.*

SideKick Plus v1.0 (\$200). If you like *SideKick* and have a hard-disk drive and enough memory, you'll want to try its latest incarnation: *SideKick Plus*. This desktop manager to end all desktop managers provides several features not in the original, including nine outliners, nine notepads, and "tickler" alarms to remind you of appointments or things to do. *Plus* may be customized to suit your preferences, as you can modify menus and screens, function-key assignments, print features, and text formats. With help screens at every level, and superior support from the publisher, *SideKick Plus* is a great value. To be reviewed October 1988. —HB

Borland International, (408) 438-8400. *Requires: 384K; hard-disk drive; modem (for dialing and data communications).*

Tornado v1.8 (\$100; \$150 w/library templates). Random notes, to-do lists, calendars, memos, and messages are easily managed with this memory-resident (or stand-alone), free-form database utility. Lets you set up forms and then search through and print out groups of related notes with lightning speed. Moving text among notes could be less cumbersome and the manual could be clearer; however, the on-screen help is so good and the program so swift and adjustable, that its usefulness far outweighs these minor inconveniences. Reviewed April 1988. —LK

Micro Logic Corp., (201) 342-6518. *Requires: 256K; CGA, EGA, or Hercules optional.*

Word Finder v1.0 (\$60). See description of Macintosh version below.

Microlytics, Inc., (716) 377-0130. *Requires: 256K; two drives (hard-disk drive optional).*

MACINTOSH

Lookup v1.0c (\$50). A desk-accessory spelling checker that lets you look up words the same way you do with a dictionary—one at a time—instead of having to check the whole document. It even gives you wild cards for searching. For instance, enter "ex-

"tion," and *Lookup* will find all words that start with "ex" and end with "tion," such as "exertion" and "exhibition." *Lookup's* 93,000-word dictionary is easily supplemented by your own additions as well. The whole package works very smoothly. —DH
Working Software, Inc., (408) 375-2828. *Requires: 512K; hard-disk drive optional.*

Smart Alarms & Appointment Diary v2.8 (\$50). A program doesn't have to do a lot to be good. It just has to do its thing well. *Smart Alarms* combines an appointment calendar with an alarm—or "tickler"—function to remind you of events or things to do. You can set the alarm to remind you repeatedly on a daily, weekly, monthly, quarterly, or yearly basis. If you don't want to react to an alarm right away, you can tell it to repeat any time from the next minute to the next few centuries (excellent for procrastinating!). Reviewed August 1987. —DH

Imagine Software, (415) 453-3944. *Requires: 512K.*

Word Finder v2.0 (\$60). Many people don't bother to use a thesaurus when writing because looking up words takes too much time. *Word Finder* solves that; it can be called up within any program, not just your word processor. With over 220,000 synonyms in the large thesaurus (or 120,000 in the smaller one) and words grouped by parts of speech and shades of meaning, you'll never again have an excuse for not using the best (I mean the appropriate) word. Reviewed July 1988. —GS

Microlytics, Inc., (716) 377-0130. *Requires: 512K enhanced; two drives recommended (hard-disk drive optional).*

APPLE II

MultiScribe Desk Accessories v3.02 (\$40). Works with the excellent *MultiScribe* word processor to give you five on-line functions: calculator, clock, calendar, puzzle, and a control panel that helps you create macros (multiple keystrokes linked together) as keyboard shortcuts. I find the 256-year calendar, which quickly displays any month and offers a daily notepad for entering memos and reminders, particularly useful. Reviewed February 1988. —GS

StyleWare, Inc., (713) 668-1360. *Requires: 128K; MultiScribe v2.0 or higher; mouse optional; clock card (for automatic clock function).*

UTILITIES & SYSTEMS

A good utility is like a good night's sleep—when you need it, nothing else can substitute. Utilities are programs that help fill in the cracks when your regular programs or operating system can't do what you need done. For instance, you could back up your hard-disk drive using MS-DOS alone, but that's often a tedious pro-



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cess. Instead, a well-designed backup utility eases this vital task.

IBM/MS-DOS

Fastback Plus v2.0 (\$190). If you don't back up your data files—particularly when you're working with a hard-disk drive—you're heading for disaster. *Fastback Plus* is not the only backup program, but it is the



Fastback Plus backs up your hard-disk drive in a jiffy.

easiest to use, with windows and pull-down menus. And when a backup utility is easy, you'll use it. I also like the way *Fastback* compresses data, so that fewer disks are needed for a backup. *Fastback Plus* is not fun; it's just necessary. —DH

Fifth Generation Systems, Inc., (504) 291-7221. Requires: 448K; hard-disk drive.

GOfer v1.0 (\$80). You know it's on your disk somewhere, but you can't remember the file name or even which subdirectory it's in. Time to call on *GOfer*. This program quickly searches through even jam-packed hard disks, finding file names or bits of text in a file with surprising speed. You can even specify complex search requirements, such as finding two words that appear near each other in a file. *GOfer* can be run as a stand-alone program or, even better, as a memory-resident utility that pops up when you need it and finds your missing data files in a flash. —SAM

Microlytics, Inc., (716) 248-9150. Requires: 128K (stand-alone); 256K (memory-resident).

Microsoft Windows v2.03 (\$99). Windows is a graphics-based, mouse-oriented desktop environment that allows an MS-DOS computer to operate much as a Macintosh does. Windows lets you open several applications at once and move instantly between them, cutting and pasting information from one to the other—IF the applications are designed to work with Windows, which only a small fraction are. Still, there are plenty of excellent Windows-based programs on the market already (such as *Microsoft Word* and *Page-Maker*), and more are on the way. Windows shows you the shape of things to come in the MS-DOS world, as it's the model for

IBM's upcoming Presentation Manager.

—SAM

Microsoft Corporation, (206) 882-8080. Requires: 512K; DOS 3.0 or higher; two drives.

Norton Commander v1.02 (\$75). A simple but powerful DOS "shell" program for your hard-disk drive, *Norton Commander* starts up your computer with a listing of subdirectories and files in the root directory displayed on-screen. You don't need to remember which command is needed to change directories and which is used to create a new one. All you have to do is press the listed function key, and the commands are executed. To copy files between subdirectories or delete files, merely highlight the files and press ENTER. —SC

Peter Norton Computing, (213) 453-2361. Requires: 256K.

Norton Utilities v4.0 (\$100). Just as boaters use life preservers, everyone who uses a computer should have a file preserver—such as *Norton Utilities*. This set of utility programs won't prevent your files from being destroyed, but it will help you bring files back if something bad happens to them. Included in the utilities are one for data recovery, another for format recovery, and a third that can find "lost" files on your disk. —PC

Peter Norton Computing, (213) 453-2361. Requires: 256K.

PC Tools Deluxe v4.24 (\$79). Formatting disks, backing up important files, deleting old files, renaming files, organizing your hard disk, and recovering files erased by accident are chores that need to be done on a regular basis. DOS has lots of little house-keeping aids (utilities), but they tend to be clunky and tedious, and too often we put things off because of the hassle. *PC Tools*, a collection of utilities, is one of the best DOS tool kits around. If you use *PC Tools* for nothing else but undeleting mistakenly deleted files, it's worth the price. The fact that it can do so much more makes it a genuine bargain. —SCM

Central Point Software, (503) 244-5782. Requires: 256K (512K recommended).

MACINTOSH

DiskExpress v1.0 (\$50). Hard-disk drives are great—but as you use them over time, they slow down because your computer's operating system puts the files in whatever sectors are free on the disk. Often, those sectors are not next to each other, so that each time you read a file, the drive's head has to go to various sectors to find the data, slowing down the operation. A good hard-disk drive utility, such as *DiskExpress*, will rewrite all your files so that they're contiguous on the disk. By using the program periodically, your hard-disk drive will maintain its vaunted speed. —DH

SOFTWARE

ALSoft, Inc., (713) 353-4090. Requires: 512K; hard-disk drive.

Fastback v1.02 (\$100). See description of MS-DOS version on preceding page.

Fifth Generation Systems, Inc., (504) 291-7221. Requires: 512K; hard-disk drive.

GOfer v1.0 (\$80). See description of MS-DOS version on preceding page.

Microlytics, Inc., (716) 248-9150. Requires: 512K.

QuickKeys v1.1 (\$100). With this marvelous macro program that's always in memory, you can set up hundreds of keyboard shortcuts for inserting text, choosing menu items, clicking and moving the mouse, running all your programs, and many more procedures. Easy to use and almost indispensable once you've started working with it, as it saves you from repetitious keystrokes. Reviewed February 1988. —DH

CE Software, (515) 224-1995. Requires: 512K enhanced; System 4.1 or higher; hard-disk drive recommended.

Suitcase v1.3 (\$60). Lets you leave Apple's limit of only 15 desk accessories (DAs) and 200 fonts per System file (500 fonts with System 6.0) in the dust. Once installed—simply drag it into the System Folder—it enables you to choose any DA or font that's on disk. *Suitcase* helps you use the Mac much more efficiently. Reviewed June 1988. —DH

Fifth Generation Systems, Inc., (504) 291-7221. Requires: 512K; two drives (hard-disk drive recommended); system 3.2 or higher.

APPLE II

Big U v1.0 (\$35). A wonderful collection of ProDOS utilities. My favorite is File Mover, the best Apple II program for copying, moving, deleting, or otherwise manipulating files and disks. Other helpful utilities include one for customizing the beep sound in *AppleWorks*, another for setting up a RAM disk, a third that creates a list of variable cross-references for BASIC programmers, and several more. —DH

Beagle Bros., (619) 452-5500. Requires: 64K (128K recommended).

MacroWorks v2.51 (\$35). An *AppleWorks* add-on that relies on macros—which convert lengthy series of keystrokes into new, two-keystroke commands—to increase productivity. For example, *MacroWorks* lets you move the cursor instantly to the beginning or end of a line in the word processor. You can also add files to the desktop without having to wade through a long series of menus. With 50 predefined macros, you can customize dozens more of your own. The program adds mouse capability to *AppleWorks*, too. Reviewed May 1987. —DK

Beagle Bros., (619) 452-5500. Requires: 128K; *AppleWorks*; mouse optional. ■

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What's New with Computers?

BY STEVE MORGENSTERN

Compaq, Dell, IBM, and Tandy Have New High-Speed Machines; Macintosh SE Becomes a Top Seller

Shake-ups in computing standards have been the rule rather than the exception for as long as computers have been around. This is still true today, with new operating systems coming to the fore, new graphics standards emerging, and almost daily attempts to break the sound barrier with high-speed computers. But through all these changes, three broad trends can be discerned:

1) MS-DOS computers, based on the IBM PC, XT, and AT, remain the dominant sellers;

2) IBM itself has deviated from the standard it established, with its Personal System/2 (PS/2) line; and

3) Macintosh has finally been established as a prime business computer, the SE being one of the top-selling models in the field.

MS-DOS

When IBM introduced its PS/2 computers more than a year ago, some people thought it would throw the whole MS-DOS world into disarray. It has caused some confusion, but it hasn't stopped MS-DOS sales. The most popular working configuration is now an AT-compatible computer (based on the Intel 80286 microprocessor) with EGA graphics and a 20MB or 40MB hard-disk drive. However, there are many variations on this theme.

VGA graphics, introduced by IBM, are being pushed hard as the new standard for business. Both IBM and Compaq have dropped their EGA display cards and are manufacturing only VGA cards. Third-party manufacturers, such as Video Seven and Paradise Systems, are also selling VGA cards that promise to be 100-percent compatible with IBM's card.

As this more colorful standard emerges, software companies are producing programs that take advantage of the new graphics modes and capabilities. And multimode monitors, such as the NEC Multisync II and the Princeton Ultrascan, have increasingly



IBM PS/2 Model 50 Z



Compaq 386s



Tandy 5000 MC



Macintosh SE

become the display of choice. These multimode monitors offer a high degree of flexibility, capable of displaying any current graphics standard (CGA, EGA, VGA) and possibly new ones.

SPEED

Graphics require speed, and computer manufacturers are supplying plenty of it. Compaq and IBM are in a seesawing battle for the leadership position in producing desktop speed demons. For many months, the Compaq DESKPRO 386/20 held the title at 20MHz. Then IBM announced the PS/2 Model 70, which runs at 25MHz. Compaq quickly shot back with the introduction of the Compaq DESKPRO 386/25.

The quest for speed isn't limited to the top end of the market. Compaq recently

introduced the DESKPRO 386s, a 386 machine that runs at 16MHz and sells for \$4,499. On the AT-compatible front, Dell Computer has broken new ground with its Dell System 220, a speedy 20MHz machine that sells for \$3,199, complete with a 40MB hard-disk drive and VGA color-graphics card and monitor.

IBM PS/2

Where does IBM fit into this matrix? First, the new IBM PS/2 computers run MS-DOS. The feature that most clearly distinguishes the IBM Personal System/2 computers from its older line of PCs is something called the MicroChannel Architecture (MCA). This is a new system for connecting internal expansion boards, such as memory upgrades and modems. It is in-

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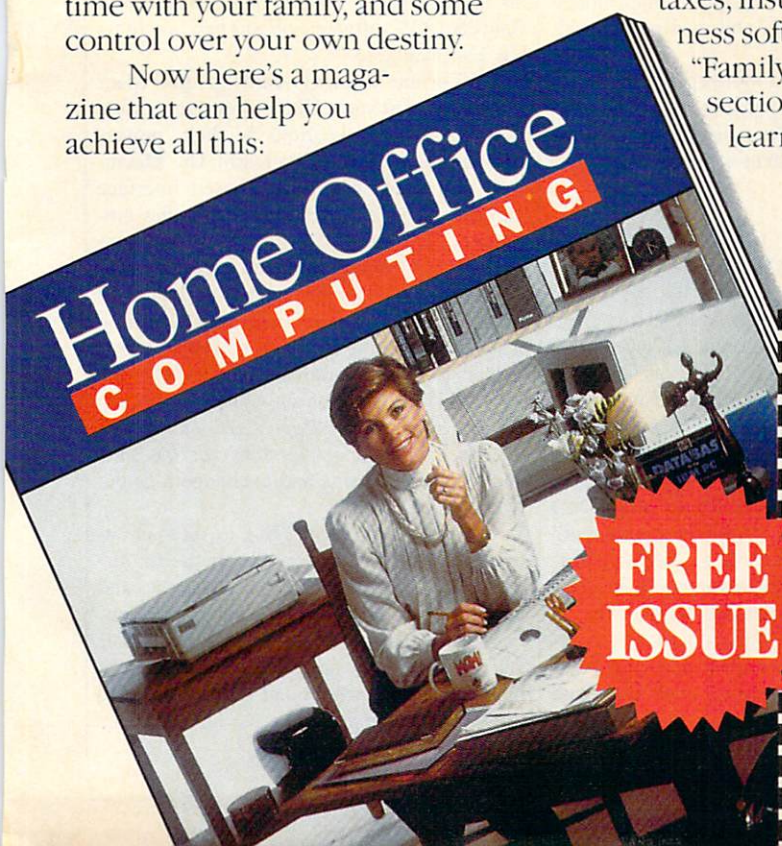
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incorporated in all IBM PS/2 computers except the Model 25 and Model 30.

IBM promises that this patented system architecture will be the key to improved connectivity and performance somewhere down the line. The most obvious effect for users adopting the MCA today is increased cost and decreased availability of expansion boards, since the majority of vendors still make boards to fit the PC, XT, and AT computers.

Nonetheless, Tandy and Dell Computers

have both announced their intentions to release MCA compatibles, or PS/2 clones. On the other hand, Zenith and Compaq have vigorously opposed the new "standard," continuing to release models that accept boards designed for the traditional expansion-slot system.

OS/2

OS/2, the new operating system from IBM and Microsoft, will run on most AT computers, as well as on the IBM PS/2 line.

It supports multitasking—your computer's capability to do more than one job simultaneously—and can address more memory than MS-DOS can. However, upgrading from MS-DOS to OS/2 is an expensive switch, since OS/2 requires at least 1.5MB of memory. This memory isn't cheap either. Chip prices are soaring as availability shrinks. A year ago, 512K cost \$55. Today, expect to pay \$270 for the same 512K.

Next month, IBM is expected to release OS/2 Standard Edition 1.1 with *Presentation Manager*, a graphics environment reportedly similar to the current Microsoft *Windows*. If *Presentation Manager* is accepted as a graphics-based, mouse-oriented standard by enough software vendors, then IBM and its compatibles will be in a position to compete on an ease-of-use basis with the graphics interface offered by the Macintosh. And it is precisely that ease-of-use and short learning curve that has made the Macintosh SE one of the best-selling single computer models.

MACINTOSH

According to market research by InfoCorp, Macintosh computers accounted for 18 percent of all personal computers sold by dealers in March, compared with 13 percent for all IBM PS/2 models. The new respectability of the Macintosh results from a combination of hardware enhancements and intense software development.

If you need color, you can get it on the Macintosh II. If you want expansion slots, you can get one on the Macintosh SE and six on the Mac II. Boards that add memory, run MS-DOS software, or add new monitors are also available.

The prime drawing card of the Mac, though, is software. The current generation of Macintosh applications is slick, powerful, and relatively easy to learn. The Macintosh point-and-click mouse-based interface and the consistent operating techniques employed in virtually every Mac software package cut training time and expense to the bone. That has major appeal to businesses of any size, where time spent learning instead of working is time (and money) lost.

Nor is the Macintosh isolated from the MS-DOS world. Programs such as *Microsoft Excel* and *Aldus PageMaker*, for example, are available in versions for the Mac and MS-DOS worlds and exchange files between machines.

The DaynaFile disk drive is another attractive way to transfer files between formats, and LapLink Mac is a popular and inexpensive serial cable-translation system.

These methods of helping PC compatibles and Macintoshes coexist peacefully in a business setting are crucial to the continued growth of Macintosh in a world dominated by MS-DOS.

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Compaq DESKPRO 386s

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CIRCLE READER SERVICE 101

The new DESKPRO 386s is the first computer to use the Intel 80386SX microprocessor, a new chip that is less expensive but almost as powerful as the standard 80386. The computer runs all present and future 386 specific software, but costs less than most "traditional" 386 computers.

The new computer is also smaller than earlier Compaq desktops, measuring 5.9-by-14.8-by-15.8 inches. It includes 1MB of memory, a 5.25-inch disk drive (3.5-inch drives are optional), and a 20MB hard drive. VGA graphics, parallel and serial ports, four AT slots, and one high-speed (32-bit) slot are built-in. There's room for four storage devices (floppy drives, hard drives, and/or tape backup devices).

Compaq claims that the 386s runs 30 to 60 percent faster than the IBM PS/2 Model 50 Z. If you want even more speed, the Compaq 386/20 (\$7,499) and 386/25 (\$10,299) will get you there.

IBM PS/2 Model 50 Z

\$3,995

CIRCLE READER SERVICE 102

The original Model 50 replaced the plain vanilla PC AT (which IBM stopped manufacturing when the PS/2 line was introduced)—but it was widely criticized for its slow overall performance and a hard-disk drive that lacked both speed and size—with a 20MB limitation. In June, IBM announced a major revision of the product with the introduction of the Model 50 Z.

IBM claims the new model performs 25 percent faster than its predecessor. The hard-disk situation has also been improved, with faster 30MB and 60MB drives now available.

IBM's other new model is the PS/2 Model 70-A21, a desktop version of the Model 80, which was designed as a "tower" that stands on the floor rather than sits on a desk. The Model 70 is the fastest computer in the PS/2 line, running at 25MHz with an 80386 microprocessor. It comes with 2MB of memory (expandable to

8MB), a 120MB hard drive, and VGA graphics. Its list price is \$11,295.

Macintosh SE

\$2,898

CIRCLE READER SERVICE 103

Even though the Macintosh Plus is still available at reduced prices, the best-selling Mac today is the SE. The system unit is a box with a built-in 9-inch monochrome screen and room for two internal disk drives. The Macintosh 3.5-inch disks store 800K, and the hard drives come in various sizes. A single internal expansion slot that can be used for boards from a simple memory upgrade to an MS-DOS compatibility card to a color display connector. Standard memory is 1MB.

The SE comes with System 6.0, which includes Multifinder, an operating system that allows multiple applications to reside in memory simultaneously, and *HyperCard*, a highly programmable graphic environment for storing, retrieving, and manipulating information.

For those who need more speed, the Macintosh II has six expansion slots and displays up to 256 colors on-screen simultaneously. A color system exceeds \$6,000.

Tandy 5000 MC

\$6,499

CIRCLE READER SERVICE 104

The Tandy 5000 MC is a 20MHz 80386-based computer with a twist. It's the first to license the MicroChannel Architecture from IBM. Instead of the normal AT-type slots, Tandy has added five MCA slots and two dedicated memory slots to make this computer ready for the future. The system has 3.5-inch drives that store 1.44MB (5.25-inch drives are optional) and offers a choice between 40MB hard-disk drives and 84MB hard-disk drive. The computer comes with 2MB of RAM (expandable to 16MB), built-in VGA graphics, and a mouse port along with the normal parallel and serial ports.

Tandy has also introduced two new computers in its big-selling 1000 line (see *news item in Up Front section*) with improved speed, graphics, and sound.

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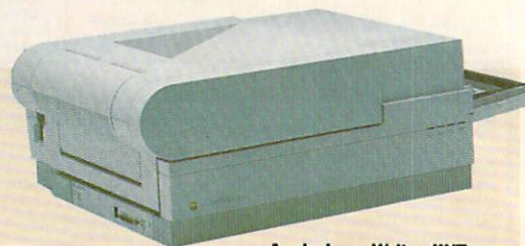
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What's New with Laser Printers?

BY ROGER HART



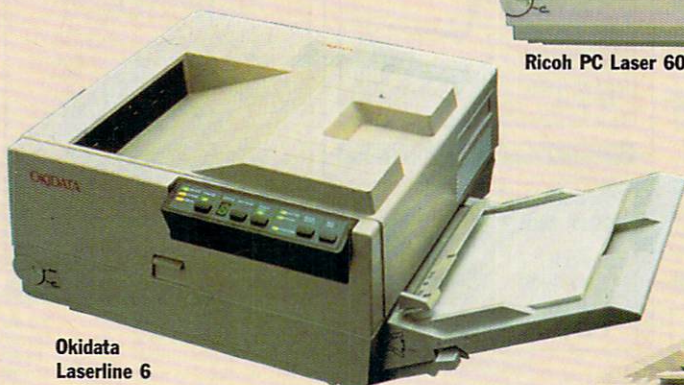
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With Apple and Hewlett-Packard Setting Standards, Lasers Move Beyond Desktop Publishing

There's little doubt that laser printers offer the ultimate in printed output from computers. Indeed, almost everyone who has seen the text-and-graphics output from a laser printer has immediately wanted one. In fact, most surveys show that more people "in-

tend to buy" a laser printer than any other computer product.

The popularity of desktop publishing turned the spotlight on laser printers, but they can be used for other purposes. The least expensive lasers, which don't have enough memory to print full-page graphics, are replacing letter-quality printers for standard business correspondence.

When shopping for a laser printer, price must be balanced against the page-description language, number of fonts, amount of memory (especially if you plan to use graphics), and emulation modes offered with each model.

The laser printer market has been dominated by Apple and Hewlett Packard. The Apple LaserWriter II series is the printer of choice for most Macintosh users, and the

Hewlett-Packard LaserJet Series II is the dominant MS-DOS laser printer. However, each printer can be used with both systems, as long as the software supports it. The main distinction between the two printers is the page-description language (PDL) used, which in turn has a considerable effect on cost.

POSTSCRIPT

PDL is the set of instructions sent by a computer to a laser printer describing what and how it should print. Most users never need to learn the language. Word processors, desktop-publishing programs, and graphics packages that support a particular laser printer invisibly translate your documents into that printer's PDL.

PostScript, the industry-standard PDL,

Contributing editor ROGER HART writes frequently about printers. His book, Inside the Apple LaserWriter, will be published this fall by Scott, Foresman & Co.

A SAMPLING OF LASER PRINTERS

Apple LaserWriter IINT**\$4,599**

CIRCLE READER SERVICE 105

The LaserWriter IINT is an upgrade to the Apple LaserWriter Plus. This printer outputs documents at eight pages per minute and comes with 2MB of memory, a 200-sheet paper tray, and both AppleTalk and an Apple serial interface.

C. Itoh Jet-Setter II**\$2,195**

CIRCLE READER SERVICE 106

This five page-per-minute laser printer comes with 512K of memory and six internal fonts. There are two slots for font cards, and memory can be expanded to 2MB. The paper tray holds 100 sheets, but there is no provision for hand-feeding of envelopes. Both parallel and serial ports are built-in. A LaserJet emulation card costs \$159.

Hewlett-Packard LaserJet Series II**\$2,695**

CIRCLE READER SERVICE 107

This model is the industry standard for non-PostScript laser printers. Almost all software that supports lasers can be configured to work with the LaserJet Series II. An eight-page-per-minute model, the LaserJet, comes with 512K of memory (expandable to 4.5MB), six internal fonts, two cartridge slots, both parallel and serial interfaces, and a 200-sheet paper tray.

Okidata Laserline 6**\$1,945**

CIRCLE READER SERVICE 108

This six page-per-minute printer holds 150

sheets of paper. There are 15 built-in fonts, but only 1 font-cartridge slot and 272K of memory (expandable to 656K). The lack of memory limits you to a quarter-page or less of high-density graphics—definitely not enough for serious desktop-publishing printers. A personality card (\$200-\$600), the interface to the computer, must be purchased to operate the printer.

Ricoh PC Laser 6000**\$2,495**

CIRCLE READER SERVICE 109

Since laser printers share much of the same technology with photocopiers, it's not surprising that copier manufacturers such as Ricoh make laser printers, too. The PC Laser 6000 has 1MB of memory—expandable to 2MB—eight built-in fonts and one font-card slot. It prints six pages per minute, and the paper tray holds 150 sheets. Parallel and serial interfaces are included. A LaserJet emulation cartridge costs \$199.

Tandy LP 1000**\$2,199**

CIRCLE READER SERVICE 110

Tandy's printer is based on the Ricoh mechanism and prints six pages per minute. However, unlike the Ricoh, it's compatible with the HP LaserJet. The LP 1000 comes with 1.5MB, enough for a full page of graphics and several downloaded fonts. Four internal fonts are included, but there is no slot for add-on font cards. It does not accept manually-fed envelopes and other stock. A parallel interface is included.

gives you added capabilities for text and graphics when working with a desktop-publishing program. With Apple's LaserWriter IINT, the leading PostScript printer, you'll have 35 professional typefaces that can be printed in practically any size, from tiny 6-point to large headline sizes. But, you'll pay \$4,000 or more for this high-end "scaling" capability, which gives you great flexibility when you're formatting desktop-publishing documents.

PostScript uses a system of instructions that tell it how to draw a letter, such as A. Once the printer knows how to draw a letter, it can draw it in any size. A file created for a PostScript printer can also be understood by some professional typesetting equipment.

The Hewlett-Packard LaserJet Series II, a non-PostScript printer, uses a different PDL, called HP Printer Control Language (HP-PCL). With HP-PCL, fonts are created by a system of dots, called bit maps, so even if the printer can draw a 6-point letter A, it may not be able to draw it in 10 point. Each type size must be described by a dif-

ferent bit map. Non-Postscript printers are cheaper, averaging about \$2,500. However, since their creative abilities are limited, you'll probably want to add fonts.

Fonts

A font is described by a certain typeface, a certain style, and a certain size. For example, Times Roman Italic 6-point is a different font from Times Roman Italic in 12-point, even though typeface and style are the same. The fonts used by a laser printer come in three varieties: internal, cartridge, and downloadable (or soft) fonts.

Internal fonts come standard with the printer. They are a part of the printer's ROM code (permanently stored on a microchip inside the printer) and are therefore always available. Some printers have only 4 or 5, others 15 or 20, and price doesn't seem to dictate the number of built-in fonts that you receive. For example, the NEC Silentwriter LC-860 comes with 4 built-in fonts and costs \$2,995; the QMS KISS Plus has 24 fonts and lists for \$300 less.

Most font cartridges are the size of a

credit card and slide into a slot on the side or top of the printer. Obviously, the more cartridge slots a printer has, the better.

Soft fonts are "downloaded" from a disk directly into the printer. The downloading technique allows for much greater variation of typesets than those available from internal and font cartridges alone. Usually, printer memory in excess of 1.5MB is needed to download fonts to a laser printer.

Memory

Laser printers compose an entire page of text and/or graphics in memory before printing. For simple text documents, the 512K of memory that is standard in many printers is enough, but it will give you only about a half-page of high-quality graphics. You'll need at least 1MB of memory to produce a full page of high-quality graphics.

As with computers, you can add memory to most laser printers. However, if you plan on printing graphics, you should certainly check to see *how much* memory you can add—and how much it will cost.

Emulation

Many printers can emulate another model and thus can use software designed for that particular model. For example, many of today's laser printers offer a Hewlett-Packard LaserJet emulation mode and accept the same printing commands required by the LaserJet. Virtually all of today's software supports the LaserJet. A printer that offers no emulation modes can be used only with programs that have specific printer setup modes (called printer drivers) for this particular model.

In addition, most serious desktop-publishing programs support PostScript printers, such as the AST TurboLaser/PS, the IBM PagePrinter, QMS-PS 810, and the Apple LaserWriter.

A Colorful Future?

What about tomorrow? Affordable laser printers are only a few years old, yet equally exciting breakthroughs promise more power and even lower prices. Some companies are planning to cut prices—and increase reliability—by replacing the laser and its mirror system with tiny solid-state light-emitting diodes, or LEDs. These are more reliable and less prone to damage and stay in better focus. These new models will be called page printers rather than laser printers, but will produce the same high-quality output at a lower cost.

The most exciting development on the horizon is color laser printers. High-priced models (in the \$10,000-\$40,000 range) are currently being developed by Colorcops Corporation and Sharp Electronics Corporation. By the 1990s, you may see them in the stores.

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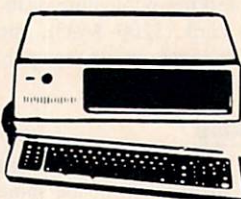
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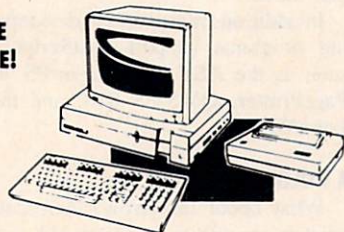
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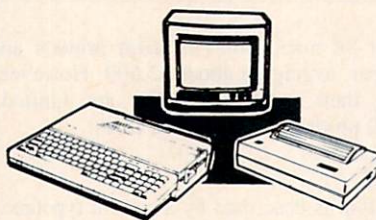


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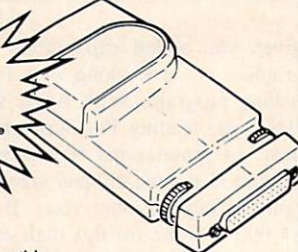
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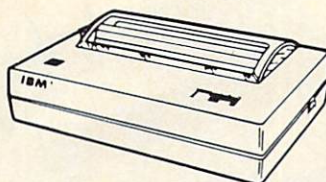
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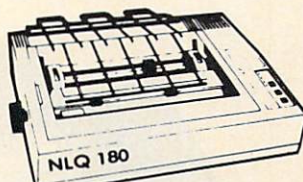
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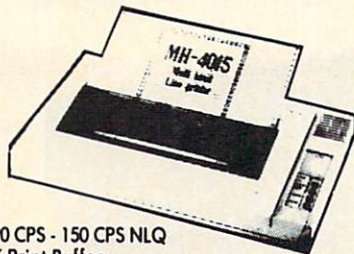


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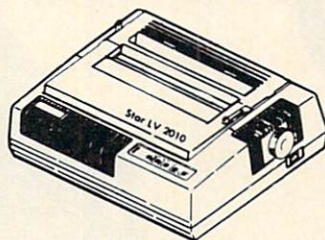


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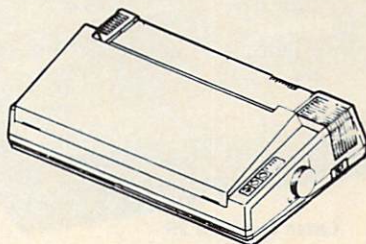


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What's New with Facsimile Machines?

BY ROB CALEM



Toshiba 3300



Sharp UX-160



Ricoh RF800



Canon FaxPhone 25



Murata M1600

Newcomers Murata and Ricoh Challenge Leaders Canon and Sharp

The facsimile machine, once an expensive, bulky box confined to the mail rooms of giant corporations, has become a small, powerful tool affordable to businesses of all

ROB CALEM, former editor of Home-Office Electronics, is a freelance writer covering home-office products.

sizes. Over the last couple of years, it has evolved into a sophisticated desktop instrument that can do triple duty as a telephone, copier, and facsimile telephone. Some also act as an image scanner that connects to a computer.

The first consumer-priced personal facsimile machine was introduced by Canon in 1986. Personal faxes generally sell for less than \$2,000 (though the Canon FaxPhone 25 costs more) and are sold through consumer channels rather than through office-supply stores.

Canon and Sharp are the sales leaders, as

they are in the personal-copier segment. But Murata, a leading seller of industrial facsimile machines, and Ricoh, which introduced facsimile machines in the 1970s, have entered the personal-fax arena. One of Murata's entries set a new price standard. At \$900 retail, the M1200 is the first full-size fax machine priced for less than \$1,000. AT&T, Brother, Citizen, Northwestern Bell, Panasonic, Hitachi, and Toshiba are major manufacturers that also sell fax machines.

Strictly speaking, there were no major technological advances to fax machines dur-

NEW MODELS FROM MAJOR FACSIMILE MANUFACTURERS

Canon FaxPhone 25 and FaxPhone 20**\$2,695 and \$1,995** CIRCLE READER SERVICE 111

Canon's speedy FaxPhone 25 sends a page in 12 seconds and has an RS-232C interface port for connection to a personal computer. When connected, the FaxPhone 25 is an image scanner and will read photographs, illustrations and text into the computer or print them out from it.

The FaxPhone 25 will broadcast up to 7 pages to as many as 15 locations. It has a 10-page document feeder, delayed transmission (so you can send when phone rates drop), and what Canon calls a "polite" outgoing message. In place of the standard warbled "handshaking" sound, the FaxPhone 25 will broadcast a more melodic sound chosen by its user. An automatic paper cutter separates incoming documents. A 30-page multiple copy feature turns the device into a copying machine. The integrated telephone features last-number redial and speed dialing for 80 telephone numbers (40 for fax, 40 for personal).

The FaxPhone 20 (\$1,995) transmits documents at 17 seconds per page. Standard equipment includes polling and a 5-page document feeder and broadcasting of up to 3 pages to as many as 16 locations.

Murata M1200 and M1600**\$900 and \$1,599** CIRCLE READER SERVICE 112

Murata, which is a leading seller of industrial fax machines, recently introduced several products targeted at home-office users. Most notable is the M1200, a basic fax machine that provides polling and transmits at 15 seconds per page. However, there's no automatic document feeder.

At the high end, Murata has positioned the M1600, which adds a four-digit password for confidential polling and speed-dialing for 30 fax and telephone numbers. It has a two-line LCD and sends at 15 seconds per page.

Ricoh RF800**\$1,500** CIRCLE READER SERVICE 113

Ricoh is an established name in the industrial facsimile marketplace, but the Ricoh RF800, introduced last summer, is its first entry in the home-office field. The telephone has a 90-number autodialer with battery backup. Transmission speed is 20 seconds per page.

Sharp UX-140 and UX-160**\$1,899 and \$2,299** CIRCLE READER SERVICE 114

The Sharp UX-140 has eight levels of gray-

tone recognition (for better transmission of a photograph), automatic contrast adjustment, polling, and a 25 second-per-page transmission speed.

At the high end of the Sharp spectrum is the UX-160, with 87-number speed dialing, polling, superfine mode, eight levels of document shading, automatic contrast adjustment, and talk reservation. Transmission speed is 18 seconds per page.

Sharp also manufactures the UX-50 and UX-80 personal facsimile machines.

Toshiba 3300 and 3700**\$1,995 and \$2,495** CIRCLE READER SERVICE 115

The Toshiba 3300 has a five-page automatic document feeder, polling, delayed transmission, autodialing of 30 facsimile and 30 telephone numbers, autorecall, and on-hook dialing. Additional telephone features are music-on-hold and a 20-digit LCD. Transmission speed is 15 seconds per page.

Stepping up to the 3700 earns you an automatic paper cutter, gray-scale recognition with 16 resolution settings, 10-page automatic document feeder, delayed transmission, delayed and turnaround polling, and conversation request following facsimile operation.

ing the past year. Rather, the major difference between last year's models and this year's is price. Two trends can be discerned. At the low end of the product spectrum, basic fax machines are becoming less expensive, falling from about \$1,500 to around \$900. At the high end, prices have stabilized, but manufacturers have been adding features.

Most machines priced higher than \$2,000 now offer broadcasting, polling, and liquid crystal display (LCD). Some also offer an automatic paper cutter and a built-in RS-232C serial port, enabling them to be connected to a personal computer.

The four most important features on a fax machine are its paper handling, broadcasting, polling, and telephone capabilities.

PAPER HANDLING

Paper is the most important part of any fax machine because all your fax communications either start or end with paper. From the input side, an automatic document feeder is an advantage. If you normally send faxes longer than one page, look for this feature. Faxing a 10-page document can be tedious if you have to feed each sheet by hand.

On the output side, most personal-fax machines use thermal paper that comes on a

continuous roll. Very few use plain paper, which produces a better image. You may want to look for an automatic paper cutter, but it generally adds weight and size to the product.

BROADCASTING

Some fax machines can send, or broadcast, the same document to more than one location. After being given a list of phone numbers, the fax machine will call each location, fax the document, and then move on to the next number. This is a necessity for people who send the same documents, such as price-change sheets, to more than one person.

POLLING

Polling, the opposite of sending, is the ability to initiate document transmission from a remote facsimile. A salesperson, for instance, could call the central office at any time to see if there is a document ready to be faxed. If so, he can then instruct the fax machine at the office to send to his location. Many of today's machines, except for the low-end models, offer polling as a standard feature.

TELEPHONE FEATURES

The telephone is the lifeline of any fax

machine. Without it, the fax machine cannot communicate. Most models have telephones with memory to store oft-called numbers and, at the least, last-number redial. However, since many people don't really use the fax machine for extended conversations, some phones don't have high-quality sound.

If you intend to use the fax phone for all of your telephone needs, examine all of the telephone features as if you were looking for only a telephone.

FAX OF THE FUTURE

In 1989 and beyond, continuing lower prices and wider distribution will make fax machines even more affordable to consumers. While today's products are sold by a small group of specialized boutiques, by 1990 nearly half of all machines will be bought at mass retail outlets, such as department stores and consumer electronics stores, and will account for half of all fax sales, according to Donald Ryan, senior industry analyst for imaging products at CAP International.

As the technology advances, features just starting to appear in industrial machines—plain paper output, integrated telephone answering devices, and connections for computers—will appear in home-office machines.

What's New with Portable Computers?

BY STEPHEN MILLER

With Markedly Improved Screen Displays, They Match Desktops for Power

Portable computers, once considered nothing but corporate status symbols or tools for journalists or traveling salespeople, can now be compared to desktops almost function-for-function. Virtually all laptops are MS-DOS compatibles, and most use 3.5-inch floppy-disk drives. Thus, they fit right into the mainstream of computing trends today.

Miniaturization has made it possible to put all the features of a desktop computer into a small battery-operated package that's no bigger than a briefcase (though it won't necessarily fit inside one). As an example, the most powerful personal computers made today are based on the Intel 80386 microprocessor running at 12-25MHz, with at least 1MB of memory and with at least a 20MB hard-disk drive. The 15-pound Toshiba T5100 (which is not battery operated) can match most of those figures. It comes standard with a 386 chip (running at 16MHz), 2MB of memory, and a 40MB hard-disk drive.

Most portables can be outfitted with internal modems, an option on most models. However, because of their small size, most laptops don't have any expansion slots.

MAJOR PLAYERS

Most retailers say that Toshiba portables are the biggest sellers, followed by Zenith, NEC, and Datavue. Tandy, which sells through its own Radio Shack channels, is another big seller. Hewlett-Packard, IBM, Kaypro, Epson, Sharp, and Sanyo also manufacture and market laptops. As an indication of the vitality of the portables market, several new players have entered the field, including the giant Japanese electronic firms, Hitachi and Mitsubishi.

Although developments in portables closely parallel those in desktops (more memory, faster processors, and larger storage capacity, for instance) there is one exception—displays.

Contributing editor STEPHEN MILLER is a computer consultant and journalist.



Tandy 1400 LT



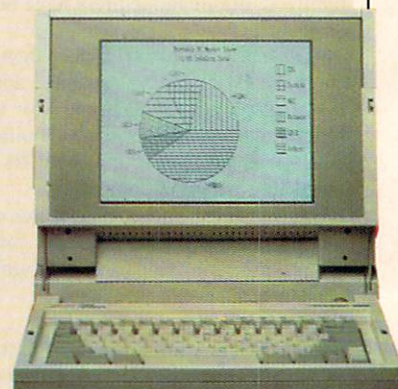
Toshiba 1200HB



NEC MultiSpeed



Datavue Spark



Zenith TurbosPort 386

SCREEN DISPLAYS

Screen displays on portables have improved considerably over the past few years, but screen technology still lags behind the advances made in stand-alone monitors. Putting images on the portable screen is as

complicated as any computing process. To produce high-resolution graphics, a separate processor is needed just to handle the rapid changes of the screen images. Because of this and other problems, manufacturers have been unable to provide color screens. And

TOP-SELLING PORTABLE COMPUTERS

Datavue Spark**\$995**

CIRCLE READER SERVICE 116

The Datavue Spark comes with 384K of memory, one 3.5-inch drive, and a supertwist LCD screen (a backlit screen is optional). Adding a second disk drive costs \$269.

NEC MultiSpeed**\$2,295 and up**

CIRCLE READER SERVICE 117

Each NEC laptop comes with a notepad, a filer, an outliner, an autodialer, and a telecommunications program that "pops-up" when you turn on the computer. None of these resident programs are intended to replace more powerful MS-DOS software, but they give you a place to start.

The MultiSpeed (\$2,295) has dual 3.5-inch drives and a supertwist LCD screen, though it does not use backlighting. The MultiSpeed EL (\$2,495)—EL stands for electroluminescent—does have a backlit supertwist display. The top of the NEC line is the MultiSpeed HD (\$3,695), which comes with a 20MB hard drive.

Tandy 1400LT**\$1,599**

CIRCLE READER SERVICE 118

The Tandy 1400LT, the company's only 100-percent MS-DOS compatible laptop,

comes with two 3.5-inch disk drives, 768K memory, and a backlit supertwist LCD screen. However, there is no option to add a hard-disk drive.

Toshiba 1200**\$2,399 and up**

CIRCLE READER SERVICE 119

Toshiba's big-selling T1100+ has been discontinued in favor of the T1200 line. Each of the four computers in this line has 1MB of memory, a resume mode that allows you to switch batteries without losing the data in memory, and supertwist screens. The 1200F (\$2,399) comes with two 3.5-inch floppy-disk drives, and the 1200H (\$3,499) with a 20MB hard-disk drive. The 1200FB (\$2,599) and 1200HB (\$3,699) are versions of the F and H models, but come with backlit screens.

Zenith SupersPort**\$2,399 and up**

CIRCLE READER SERVICE 120

The SupersPort, which weighs less than 10 pounds, comes standard with 640K of RAM and dual 3.5-inch disk drives (720K). The SupersPort 20 (\$3,599) comes with a 20MB internal hard drive. The entire line uses backlit LCD screens, except for the TurboPort 386 (\$7,999), which comes with a page-white screen.

until recently, CGA was the normal resolution. Toshiba was the first to achieve EGA resolution with its T3200 and T5100.

Two technologies are commonly used that produce small, lightweight screens suitable for portables—gas-plasma and liquid crystal display (LCD). Gas-plasma technology produces a better picture (usually reddish or orange), but it is expensive and can't be run effectively using batteries. Therefore, more design effort has gone into LCD screens.

LCDs are similar to the displays on digital watches; if there's not enough light, the displays are barely readable. Beyond that, LCDs can't form as sharp an image as regular stand-alone monitors produce.

However, using a screen-display technique called supertwist, which effectively bunches the dots closer together, portable designers have achieved quite readable screens. That, in combination with internal backlighting of the screens has made today's displays quite acceptable. (Backlighting is most effective when there is little or no ambient light.)

Sharp has announced a refinement of supertwist technology called double supertwist, but it has yet to be implemented in a commercially available product. Zenith is now using a page-white screen, a high contrast black-on-white display, which gives better contrast. Color displays, however, are many years in the future, according to most experts.

What's New with Copiers?

BY ROB CALEM

Canon and Sharp Lead In Sales; New Panasonic Apogee Copies Images From Computers

Since Canon introduced the original personal copier six years ago, the product has filtered into most department stores and discount consumer electronics outlets, as well as a growing number of home-office electronics stores. Like its fax-machine cousin, the personal copier has benefited from advancing technology, and at least one (Panasonic Apogee/1) can now work in tandem with computers, VCRs, and color televisions.

ROB CALEM, former editor of Home-Office Electronics, is a freelance writer covering home-office products.

Canon and Sharp are the leading sellers of copiers, but by no means are they the only players. In the last year, Canon, Sharp, Ricoh, Panasonic, and Xerox have unveiled eight new models.

How do you decide which one is right for you? Several questions must be answered before you can start shopping. What size copies do you make? How much copying do you do? Do you need to enlarge or reduce originals?

PAPER HANDLING

For most users, paper handling is the most important feature of a copier. Most copiers automatically feed up to legal size paper (8.5-by-14 inches). To copy nonstandard items, such as a business card, you must manually feed them to the copier.

If you make a lot of copies, you don't want to be filling the tray often. Tray sizes range from the 50-sheet tray used in the Ricoh LR-1 to the 250-sheet tray used in the

Ricoh FT2070, and beyond. And some, such as the Canon PC-3, don't use trays at all, and require manual feeding.

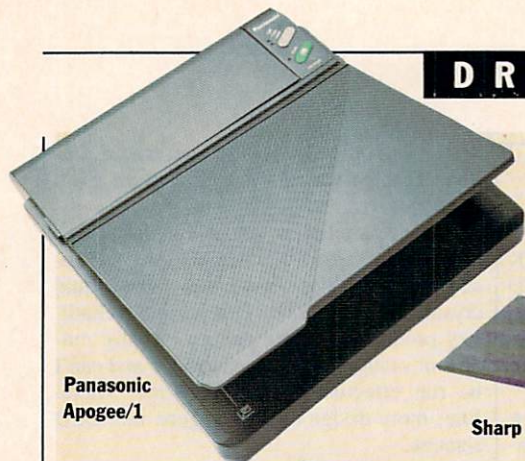
The speed at which a copier operates is the next feature to consider. In general, personal copiers range from a low of five copies per minute to a high of eight copies per minute.

ENLARGE OR REDUCE

Some copiers, such as the Canon PC-7, use a zoom-lens technology that allows you to enlarge or reduce the size of the original when making copies. Reduction is handy for users who receive odd-size originals that don't fit neatly in their files. Enlargement is very useful when you get spreadsheet printouts or other important documents that have been printed in condensed type. The original can be enlarged to make the type easier to read.

Enlargement and reduction are particularly useful for artists and desktop publishers.

DREAM MACHINES



Panasonic Apogee/1



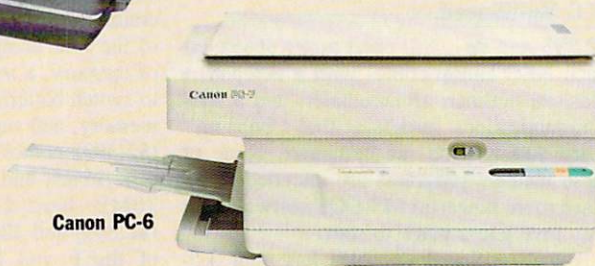
Sharp Z-70



Xerox 5008



Ricoh LR-1



Canon PC-6

NEW COPIERS FROM MAJOR MANUFACTURERS

Canon PC-6 and PC-7

\$1,495 and \$2,095 CIRCLE READER SERVICE 121
Canon's new PC-6 and PC-7 both offer automatic exposure (automatically adjusting the brightness depending on the darkness of the original) and a 100-sheet tray. Both print labels, letterhead, or transparencies. You can change the cartridge to make blue or red copies instead of black. Both can produce up to 99 copies of a single document.

The PC-7 also provides reduction and enlargement, from 70 percent to 122 percent of the original size, adjustable in one percent increments. Operating speed is eight copies per minute for the PC-6 and PC-7.

Panasonic Apogee/1

\$800 CIRCLE READER SERVICE 122
The Panasonic Apogee/1 is probably the technology leader in the copier field today, despite its low price. It can make color copies of video or computer images when connected to VCRs, TVs, or computer video ports with an optional cable. The Apogee doesn't need toner, drum, developer, or heat roller. The user can edit original documents to randomly black out confidential information or highlight sections with a second color. However, the Apogee has no automatic sheet feeder.

Ricoh LR-1

\$1,149 READER SERVICE 123
Supplied to Ricoh by Canon (and equipped with the patented Canon cartridge system), the LR-1 is also known as the "Little Ricoh." The LR-1 features a 50-sheet paper tray (holding paper from business card to

legal size) and can make up to nine continuous copies of a single original. The LR-1 will produce monochrome copies in any of five colors: black, red, blue, green, and brown. The LR-1 produces five copies per minute.

Sharp Z-30 and Z-70

\$799 and \$1,600 CIRCLE READER SERVICE 124
Sharp's newest offerings are the Z-30 and Z-70 personal copiers. The Z-30 includes automatic exposure and continuous copying of up to 20 copies, at five copies per minute from a 50-sheet paper tray. The faster Z-70 produces eight copies per minute, has a 100-sheet paper tray, and accepts color cartridges (for monochrome output). In addition, the Z-70 provides an automatic "power save" feature that will shut the machine down if it remains idle for more than 15 seconds.

Xerox 5008 and 5008 R/E

\$1,295 and \$1,695 CIRCLE READER SERVICE 125
The Xerox 5008 and 5008 R/E, the company's first personal copiers, are made by Sharp. Both produce eight copies per minute, have a 100-sheet paper tray and a manual bypass feature for paper as small as 2-by-3.5 inches, and accept color cartridges.

In addition, both models have an automatic power-save feature that will shut the machine down if it remains idle for more than 90 seconds. The Xerox 5008 R/E allows for 10-by-14-inch originals, and can enlarge them by 124 percent or reduce them down to 64 percent or 75 percent.

Photos, illustrations, and type can be reduced or enlarged for size proofing before they are changed on the document. The art department of HOME-OFFICE COMPUTING uses this method constantly when creating the rough layouts in the initial design phase of each issue.

MAINTENANCE

Most of the copiers available today are based on a replaceable cartridge system pioneered and patented by Canon. With Canon's system, one snap-in cartridge contains toner, drum, and developer unit—all the needed parts. The Canon system makes quick, easy, white-glove maintenance of copiers possible and reduces the need for outside service.

With systems employed by such competing brands as the Ricoh FT2010, the toner, drum, and developer are two or three separate units. These systems are more difficult to maintain because parts are changed more frequently, and the process can be messier.

FUTURE COPIERS

Borrowing technology from current laser printers, monochrome laser personal copiers will likely be brought to market some time next year. Color laser copiers are available now (notably from Canon), but at a cost of about \$10,000. The technology for consumer-priced laser copiers exists today and according to manufacturers, so do prototypes. But they are waiting for home-office demand before bringing the models to market.

Manufacturers predict that over the next few years, they will bring to market lower-cost, feature-laden personal copiers—until one day we will see a plain-paper machine that acts as a combined copier, fax, phone, and laser printer. ■

FAMILY COMPUTING

Reading Software: Why it Works

An Interview with Dr. Jan Davidson, President of Educational Software Publisher Davidson & Associates



Dr. Jan Davidson began her career in 1966 as a language-arts teacher. Twelve years later, she founded Upward Bound, a nonprofit association for after-school academic enrichment courses, which eventually led to her interest in using computers as educational and recreational tools. In 1982, she started Davidson & Associates and has since developed some of the most popular and best-known reading and math software for school-age children. Davidson's reading software includes Speed Reader II, Read 'n Roll, and Reading and Me. In a recent interview with Executive Editor Bernadette Grey, Davidson talked about the role computers play in teaching children to read.

Q. What are the elements of good educational software?

A. Programs should be fun and should captivate the child and motivate him or her to learn. If the child enjoys the program, uses it, and learns from it, then it's good.

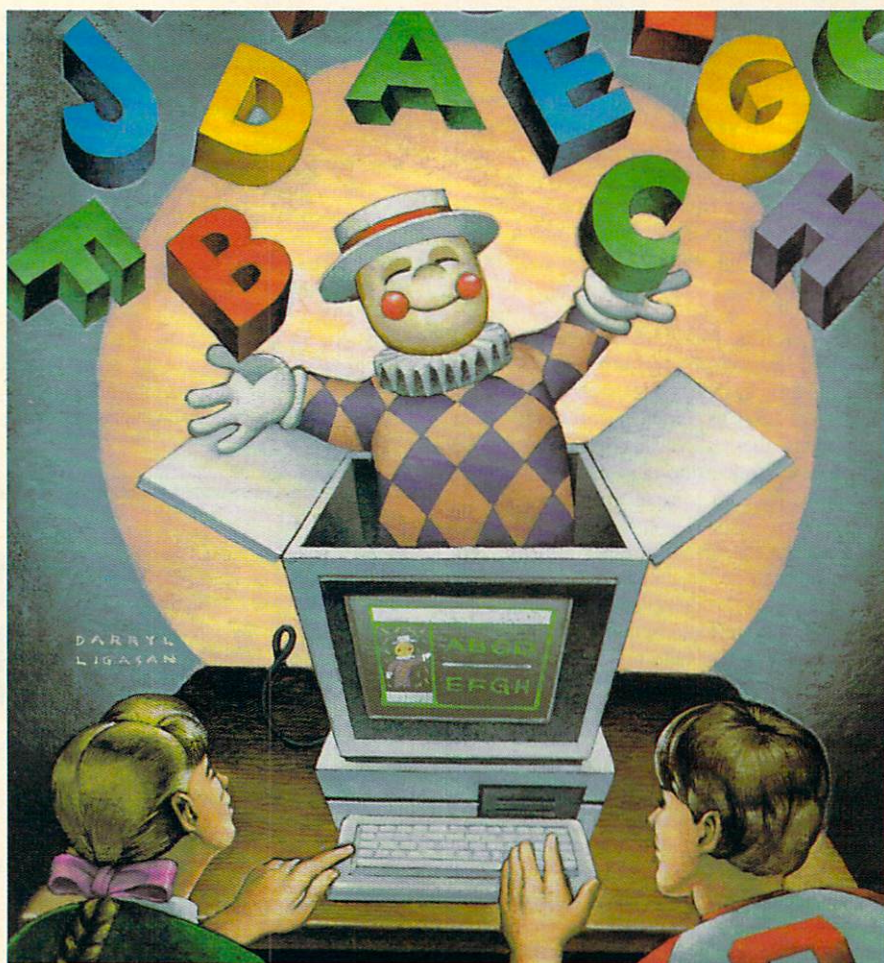
Educational software should also cover a specific academic subject in a range of levels and offer various activities that build upon one another. Even more beneficial is a

THE FAMILY NOT FORGOTTEN

Even with our new name, "family" remains an integral part of this magazine and of the home-office environment. In each issue, you'll find this spot where readers and their families can learn to better utilize their computers in the areas of education and entertainment.

You'll find reviews of the latest and best software for learning and leisure; interviews with education experts; advice on maximizing your computer as a learning tool; and hot gaming tips, hints, rumors, and more.

Next month, in addition to entertainment and education reviews and game hints, Family Computing will tell you how to get involved in Computer Learning Month, a national project that promotes the benefits of technology to parents, educators, and businesspeople.



program that allows parents, teachers, and students to customize it by adding their own materials.

Vocabulary building is another important element. Ideally, students should be building vocabulary skills as they are reading. Without stopping and looking up words in the dictionary, they should be learning new words from the context clues.

Also, I firmly believe that reading and writing are closely associated. Good reading skills foster good writing skills. Integrating all the language-arts skills is the logical way to present a program. The closer the soft-

ware relates vocabulary, reading, and writing, the better.

Q. What are the different types of reading software and what makes them effective?

A. There are speed-reading and comprehension packages, programs that teach vocabulary, as well as several phonics programs. Reading-comprehension software generally presents a passage and asks questions. It lets you know immediately whether or not you are retaining and comprehending what you've just read.

Children have a hard time practicing all

the elements of reading at the same time. Reading software is effective in breaking up the components so children can concentrate on understanding the main idea of a paragraph and then move on to finding facts and recognizing sequences or inferences.

Q. Does speed-reading improve reading comprehension?

A. You can improve reading comprehension by learning speed-reading techniques. Most people think faster than they read. People forget when they read; they get bored, they daydream. If you read in groups of words, you understand more. You use peripheral vision to read groups of words, and if you get into it, you understand.

For example, when you read the word *very* it means nothing until you read *very beautiful* and that doesn't mean much until you read *very beautiful girl*. Speed-reading trains your eyes to take in groups of words in order to comprehend more. I never think of speed-reading without thinking of comprehension.

Q. Do parents feel that the conventional forms of learning to read are better?

A. I haven't heard any resistance from parents. We get so much information from computers these days that it makes just as much sense to learn to read from a computer screen as to learn to read from a book.

Q. How closely should parents interact with their children at the computer?

A. Parent involvement enhances a child's experience at the computer. I think those children who view reading as a special time with parents as a fun time—like snuggling up to Mom and reading a book together—turn out to be better readers. This is an image that I worked very hard to give my children when they were growing up.

Children read at different rates and learn in different sequences so it's important that parents be patient and try not to show any concern when a child makes a mistake or incorrectly answers questions. When parents are with their children at the computer, they should talk with them about the pictures and the colors. Talk about how the pictures relate to things they've done together.

Q. How important is the fun factor?

A. You can't separate entertainment and education. If children are involved and are enjoying themselves, they are learning. A program should be so inviting that children will want to initiate its use. And when the child is bored, he or she shouldn't be encouraged to continue. Marshall McLuhan once said, "Those who draw a distinction between education and entertainment don't know the first thing about either." ■

How to Select Good Educational Software

BY JAN DAVIDSON

Finding software that your children will both like and learn from can be a difficult task. There are hundreds of educational titles to choose from, and not all of them are appropriate. To help you make smart buying decisions, ask these questions:

1. Can I preview the software before I buy it? This is a necessity. You can't judge software by its cover.

2. Is the material appropriate for my child's age and level? Unfortunately, you can't always depend on the age and grade level specified on the package. Look at the reading level and the material covered to be sure that it is appropriate for your child.

3. Does the software meet my child's particular need? Some software is very direct and covers specific academic material while other software is more general and covers thinking and logic-building skills. The type of software you prefer depends upon your objectives.

4. Is it easy to use? To create the right atmosphere for learning, software has to be easy to use. The child should be able to leave any exercise and go on to another, without becoming trapped in a long succession of menus.

5. Does the software make good use of my computer's capabilities? Good software takes full advantage of the computer's capabilities—graphics, color, and sound. Good software also offers action and immediate feedback. If the task performed by the software can be performed just as well by a book, then buy a book.

6. Will the program have a long life? Look at the amount of learning material covered. A \$50 product that provides hundreds of hours of learning is a better bargain than a \$20 product that provides only five hours of learning.

7. Can I add my own data to use with the program? An editor or authoring system enables you to customize the product by adding your own material and gives the software a longer, more useful life.

8. What happens if the disk becomes damaged? Floppy disks are fragile and easily damaged, especially when children use them. Make sure that the manufacturer will replace a damaged disk and find out the length of its warranty and the disk's replacement cost, if any.

9. What do experts say about the software? Read software reviews in computer magazines and note awards or certifications. Also ask your child's teacher for recommendations.

Gardeners Go Back to Their Roots

Phoenix Landscapers Strike a Balance Between Family and Home Business

BY TAN A. SUMMERS

Between the Arizona desert and an ordinary backyard in Phoenix, there exists a delicate balance. With summer temperatures frequently soaring higher than 110 degrees and relative humidity typically as low as 6 percent, you can't just plant a few seeds and wait for a lawn to grow. Untended yards quickly revert to their natural desert state. Professional landscaping must be implemented almost as soon as new homes are completed to keep loose soil from filling in swimming pools and burying patios. That's

where Wayne and Cheryl Cheek step into the picture.

The Cheeks operate Colorscape Landscaping and Design from what used to be the patio of their suburban Phoenix home. "We put up walls and moved in office supplies in the fall of 1987," says Wayne. "It still looks kind of unfinished." Since practically all client contacts are made at the client's home or business, finishing the office is low on the Cheeks's to-do list. More important is the time they spend with their children—and with each other.

The Cheeks and their three children moved from the lush farmlands of Utah to the arid southwest because Cheryl was

TAN A. SUMMERS is a freelance writer from Metairie, Louisiana, who frequently reviews software for HOME-OFFICE COMPUTING.

homesick for her family in Phoenix. Wayne's background in agronomy and agricultural consulting made him the perfect person to take over the nursery garden and landscaping service owned by Cheryl's father.

Wayne and Cheryl both took courses in landscape design and spent long hours at the nursery and at clients' homes installing watering systems and plants. The business quickly grew until Colorscape required seven outside designers and three installation crews to keep up with the demand. However, it soon became apparent that the Cheeks's goal of family togetherness was

Moving the office into their home has made a big difference in the quality of the Cheeks's family life.

not being met. When they moved into a new house a year ago, they reduced their staff and took the business with them.

Moving the office from the nursery into their home has made a big difference in the quality of the Cheeks's family life. "Since they started working at home, they can go swimming with us when we get home from school," says their son, Matthew, 13. Ten-year-old Sarah appreciates having her dad on hand to watch afternoon softball games.

"Working at home allows me to have more interaction with the children, especially during the day," says Wayne, who takes the children with him on jobs when they are not in school.

Relocating the business also gave the Cheeks access to a computer, for which their 14-year-old son, Joseph, writes programs. The Cheeks purchased spreadsheet software, which they use to calculate payroll, year-end reports, and employee benefits, but Joseph developed the rest of the software they use—including an inventory program and a simple CAD system.

Combining work and family life so closely sometimes can be hectic. Wayne recalls one week early in June when the children had four school programs, three softball games, and a Boy Scout Court of Honor ceremony. Cheryl was out of town, so it was up to Wayne to oversee two landscaping projects that were nearing completion on opposite sides of town and escort the children to their respective events.

Despite their sometimes chaotic schedule, Wayne and Cheryl love their new lifestyle. "The best thing about it is the extra time I get to spend with my wife," says Wayne. Since they both enjoy gardening, spending the early morning hours working in their own yard several times a week gives them a chance to enjoy each other's undivided attention.

"We must have a nice-looking yard as an advertisement," explains Cheryl, who refers to their yard-work sessions as daily dates. "We could go to a movie," she says, "but then we'd just sit. This way we can talk and laugh."

Wayne feels that cooperation is the key to their home-office success. "I'd say the husband and wife have to like working together," he says. "It's also important that the kids understand the situation right from the start. They must realize that even though we're at home, we can't always play."

The balance between a home business and a family can be as fragile as the Arizona desert ecology. Nevertheless, the Cheeks are proof that the balance can be maintained. By keeping their business at a manageable size and including family members whenever possible, they're keeping both firmly rooted. ■



Gardening Cheek to Cheek (clockwise from left): Wayne, Sarah, Joseph, Matthew, and Cheryl Cheek find more time together since their business moved home.

Software for Learning and Leisure

Comprehensive and Capsule Reviews of New and Noteworthy Programs for Education, Creativity, and Entertainment

The following table and ratings key relate to the software reviews that follow. Listed are various types of computers as designated under "system requirements" and the models included under each designation. Any additional hardware, software, or memory listed is required unless noted as "recommended" or "optional."

Designation	Models
512K Amiga	500, 1000, 2000
48K Apple	II/II Plus/IIe/IIc/IIgs (in IIe/c mode)
64K Apple	II Plus/IIe/IIc/IIgs (in IIe/c mode)
128K Apple	IIe/IIc/IIgs (in IIe/c mode)
Apple IIgs	IIgs only
48K Atari	800/600XL/800XL/65XE/130XE
512K Atari ST	520ST/1040ST/Mega ST
C 64/128	C 64, C 128 (in 64 mode)
128K IBM PC	PC/XT/AT, PS/2 and compatibles
128K Macintosh	128K/512K/512KE/PLUS/SE/II
512K Macintosh	512K/512KE/PLUS/SE/II
512KE Macintosh	512KE/PLUS/SE/III

RATINGS KEY: ○ Poor; ★ Average; ★★ Good; ★★★ Very Good; ★★★★★ Excellent.

EDUCATION/CREATIVITY

Where in Europe is Carmen Sandiego?

SYSTEM REQUIREMENTS: Reviewed on 256K IBM PC. Also for 128K Apple, C 64/128.

PUBLISHER: Broderbund Software, 17 Paul Drive, San Rafael, CA 94903; (415) 492-3200

PRICE: \$45

PUBLISHER'S SUGGESTED AGE: Grades 4-9

COPY PROTECTED: Yes

OVERALL RATING: ★★★★★

DOCUMENTATION: ★★★★★

ERROR HANDLING: ★★★★★

GRAPHICS QUALITY: ★★★★★

EASE OF USE: Easy

What has the making of a legend? In the world of software, it may well be Broderbund's *Carmen Sandiego* line. *Where in Eu-*



rope is Carmen Sandiego? is the third product in this long-running, best-selling series of educational games pitting you, the eager ACME detective, against Carmen Sandiego and her associates at V.I.L.E. — the Villains International League of Evil. These bad guys have been heroes in schools and homes across the country: Catching them tests your knowledge of geography and assorted cultural facts. It also requires deductive skills that are well worth developing—even if you don't plan to pursue criminals.

This new *Carmen* is not much different from the first two (*Where in the World* and *Where in the USA*). Your predicament is the same as always: Carmen (or more likely one of her 16 gang members) has ripped off some cultural treasure from a European city. You have a limited amount of time to track the perpetrator to his or her lair and make the bust—assuming you've been able to issue a warrant for the proper suspect.

So what's to distinguish this one from the others? Well, Europe, for starters. There are 34 new cities, from Vaduz to Valletta. For the educationally oriented, this means that there's new content to master, which may be the principal benefit of the newest *Carmen*. There are new crooks. There's a slightly new interface, and there are new ways to investigate (no longer just locations; now you can interview witnesses). And there's a new reference book, a specially prepared atlas of Europe from Rand McNally. (You know Carmen has clout when she has an atlas created just for her!)

Most important, the game features a new on-line database that allows you to sort countries based on colors in the flags, currencies, and ethnic populations. For example, you're stuck in Vaduz (figured out where that is yet?), and a witness tells you the suspect was exchanging her money for krona. Rather than flip through your documentation, you can use the database to match the currency to the appropriate countries. It's pretty handy.

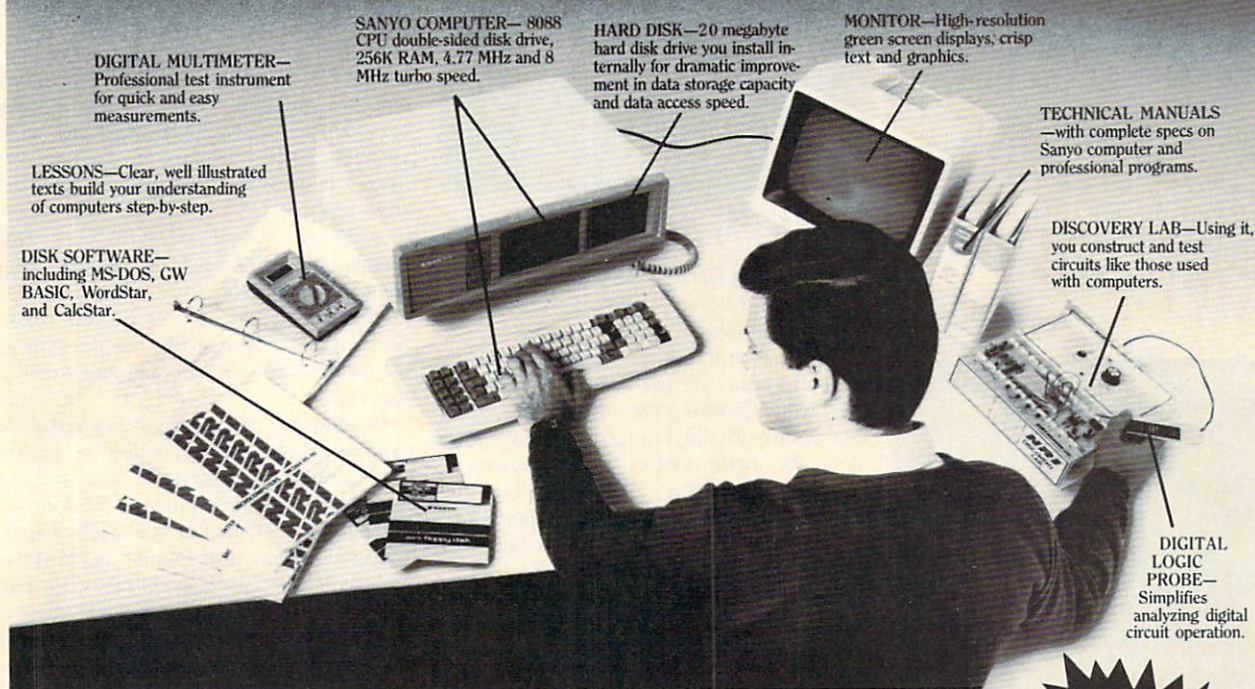
The database is an important educational addition, not only for the content it displays but also because it's a nice primer on learning how databases really work. Don't get me wrong—this isn't *dBase IV*. But it does teach kids many aspects of sorting records based on single or multiple criteria. And like the rest of the game, it's a snap to use.

Several things make *Carmen* charmin'. First, there are the whimsical yet purposeful writing and graphics that permeate both the software itself and the accompanying documentation. I'm a big fan of these features, which aren't so much bells and whistles as they are expressions of the software's personality. Second is its ease of use. All of the *Carmen* products can be learned in minutes. If you can press an arrow key, a space bar, and a return key, you're ready to explore Europe. Third is the smooth interweave of learning and playing.

But what do kids learn from playing this game? Content to be sure and deductive skills as well. I think there's something else that's important: the pleasure that novice computer users—adults and kids alike—get from this game. Repeatedly, I've given *Carmen* products to newcomers, and, invariably, the program breaks down their computer phobia in minutes. The sense of playfulness and of mastery over a computer that *Carmen* imparts may be just as important in the long run as knowing where Vaduz is. And while *Where in Europe* may not be a quantum leap forward in software design from its predecessors, it may be that its creators know that if something's not broken, well, hey, don't fix it.

—ROBERT GEHORSAM

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We'll give you tomorrow

The Sesame Street Crayon Series: Letters for You, Opposites Attract, and Numbers Count

SYSTEM REQUIREMENTS: Reviewed on 128K Tandy 1000. Also for 128K IBM PC and compatibles. CGA or EGA. Joystick or mouse recommended. Printer optional.

PUBLISHER: Polarware, 1055 Paramount Parkway, Batavia, IL 60510; (312) 232-1984

PRICE: \$15 each

PUBLISHER'S SUGGESTED AGES: 3+

COPY PROTECTED: No

OVERALL RATING: ★★★★★

DOCUMENTATION: ★★

ERROR HANDLING: ★★★★★

GRAPHICS QUALITY: ★★★★★

EASE OF USE: Easy



Letters for You

What is love to a young child? Mommy, Daddy, a stuffed animal, Big Bird, Cookie Monster, Ernie and Bert, or Oscar the Grouch. *The Sesame Street Electric Crayon Series*, including *Letters for You*, *Numbers Count*, and *Opposites Attract* by Polarware, translates that love into a preschool-early childhood skills program. The skills are taught indirectly and are varied in nature.

The series helps a young child strengthen eye-hand coordination, learn colors, become computer literate, develop a sense of independence, and learn letters, numbers, or opposites, depending on which program is used. *Letters for You* includes a picture for each letter, and *Numbers Count* and *Opposites Attract* each have 30 pictures and teach physical concepts such as the difference between big and small.

My 4½-year-old son, Jonathan, took to the series immediately. Within a short time, he was able to handle most features independent of me and was very proud of his accomplishments. Using *Letters for You*, he first saw Big Bird and the letter A, complete with apples. After a few instructions from me, Jonathan easily used the joystick (the keyboard can also be used) to choose colors and paint pictures on the screen. His control of the arrow-crayon icon became more fine-tuned as he colored. Other user options from



Numbers Count

the icon menu were just as easy for Jonathan to learn, and he was even able to print his picture by himself.

Clicking on either the right or left arrow icon along the top bar changes the picture on-screen. Choosing the printer icon directs the picture to the printer. When clicking along the menu options, an arrow icon is used for the cursor. Once moved to the picture or palette of colors at the bottom of the screen, the icon becomes a crayon in the color currently selected.

Program options for display, printing, and printer selection are chosen when the program is first booted. Display options include IBM CGA, EGA, and Tandy 1000. The Tandy 1000 option produced vibrant colors, taking advantage of the machine's special color capabilities. The list of printers is extensive, even including my little-known Canon A-50. The user can print out the picture by itself or in combination with one of the following: a calendar (user sets the month and year), a description of the picture, or a customized message. Jonathan wanted a calendar and printed one for each month of 1988, selecting pictures from each program.

All three programs in the series employ the same user interface, and each delights the young child or anyone who's young at heart. The price is nominal for a package that will provide hours of educational fun.

—JUDITH ZORNBERG

Explore-A-Story: A Brand New View

SYSTEM REQUIREMENTS: 128K Apple. Printer and color monitor recommended. Mouse, joystick, or KoalaPad optional.

PUBLISHER: D.C. Heath, 125 Spring St., Lexington, MA 02173; (800) 441-4102

PRICE: \$75

PUBLISHER'S SUGGESTED AGES: 4–10

COPY PROTECTED: Yes

OVERALL RATING: ★★★★★

DOCUMENTATION: ★★★★★

ERROR HANDLING: ★★★★★

GRAPHICS QUALITY: ★★

EASE OF USE: Easy

When I was a child, I often complained that the story my mother had just read to me "didn't come out right." Perhaps that was the beginning of my compulsion to write, but it was an annoyance to me that stories could have only one ending.

Explore-A-Story removes that limitation from children's stories. Not only can the endings be changed, so can the beginnings and the middles. Using simple keyboard commands, the reader becomes the writer, changing and rearranging the existing story, adding new words, or starting a new story from scratch.

A *Brand New View* introduces Nina, Shauna, Davey, Jane, Ray, and their puppy friend, Penny. The story is set at a playground and describes how Shauna likes to hang upside down on the jungle gym and the swings and see "a brand new view" of the world.

Reading the story straight is a rather dull exercise. However, the point of this package is not to read great literature, but to explore the creative writing process. Moving and animating the characters is a cinch. The dog wags his tail and trots around, the bird flies, and the children walk and climb on the bars.

Pointing out the characters and their actions and asking your child questions can open up possibilities for change. "What if we say 'The sun shone from behind the swings' instead of 'The moon shone from behind the big willow'?" What would we have to change in the picture?"

This package was obviously designed for teachers, since it includes five copies of the picture book that comes with the software and an order form for workbooks and additional copies of the text. However, my experience in using the software with children is that it works far better on a one-to-one basis. Moms and Dads can spend enjoyable interludes at the computer with their youngsters and feel that they are encouraging divergent thinking and creativity at the same time.

Suggested lessons in the back of the *Teacher's Guide* should not be ignored by parents. They help explain the program's flexibility and point out some of the things



CARMEN STRIKES AGAIN!



The thick night fog is torn by the shriek of a whistle as the Orient Express hurtles through the sleeping countryside. In one of the sleek train's compartments, a dim light illuminates the face of a striking woman. A slight smile plays over her lips: If all goes according to plan, when the citizens of Venice awake, they will find every last one of their precious gondolas missing. . .

Carmen's back! And you're going to have more thrills than ever as you chase her and her new gang. This time, they're out to steal the priceless treasures of Europe. They *must* be stopped!

Start out at the scene of the crime. Question witnesses, search for



ON-SCREEN MAP of Europe

clues, and talk to a local tipster. Then decide on your next move. To help you unravel the clues, you'll have Rand McNally's 96-page, full-color *Concise Atlas of Europe*™. It's packed with maps and facts about all 34 countries of Europe with a special section on map-making and decoding. Piecing together the clues calls for all the deductive reasoning

skills of a Sherlock Holmes.

Before you're done, you'll know Europe inside out. But best of all, you'll have so much fun, they'll have to drag you away from the computer.

► NEW VILLAINS, new locations, new clues, new treasures, new challenges! ► NEW CRIMESTOPPER'S COMPUTER NOTEBOOK for keeping track of your clues. ► NEW FACTFINDER'S DATABASE shows you how a data base can help you interpret clues faster. ► GAMES GET MORE CHALLENGING as you gain more experience.

TEACHERS: School Editions are available for all CARMEN SANDIEGO programs.

54CEH

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Businesses, schools, groups... communities everywhere sponsor free events during Computer Learning Month.

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Spend quality time learning together with our free Family Activities Guide.

Photo: © Four By Five, Inc.



Discover how computers are helping kids learn with our free book for parents.

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By learn relation And with

Take Part In Computer Learning Month.

Free contests, books, events... Computer Learning Month is an easy, exciting way to discover more about computers. And to explore what they can do for you. Computer Learning Month helps people of all ages learn together. Because by learning together, we build better relationships. With computers. And with people.

Contests Make Learning Fun.

Win thousands of dollars worth of computers and software. And you don't have to own a computer to enter. There are contests for individuals and groups. Kids, families, even entire schools. Entering is easy. Participating is fun. And if you win a prize, your school wins one too.

Materials Make Learning Easy.

Easy-to-read materials are packed with how-to information for everyone. Our free book for parents explains how computers are used in learning. And our free career book shows how everyone from artists to zoologists use computers in their work. The Family Activities Guide helps families learn together. And for educators there are books with lesson plans and even a university software resource guide. Read at home, or share the fun... put on a community event with our Computer Learning Night Kit. Learn a little. Share a lot. Or choose anything in between.

**Endorsed by the National Education Association, American Federation of Teachers, and many more.*

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*ing. together we build better
ships with computers.
people.*

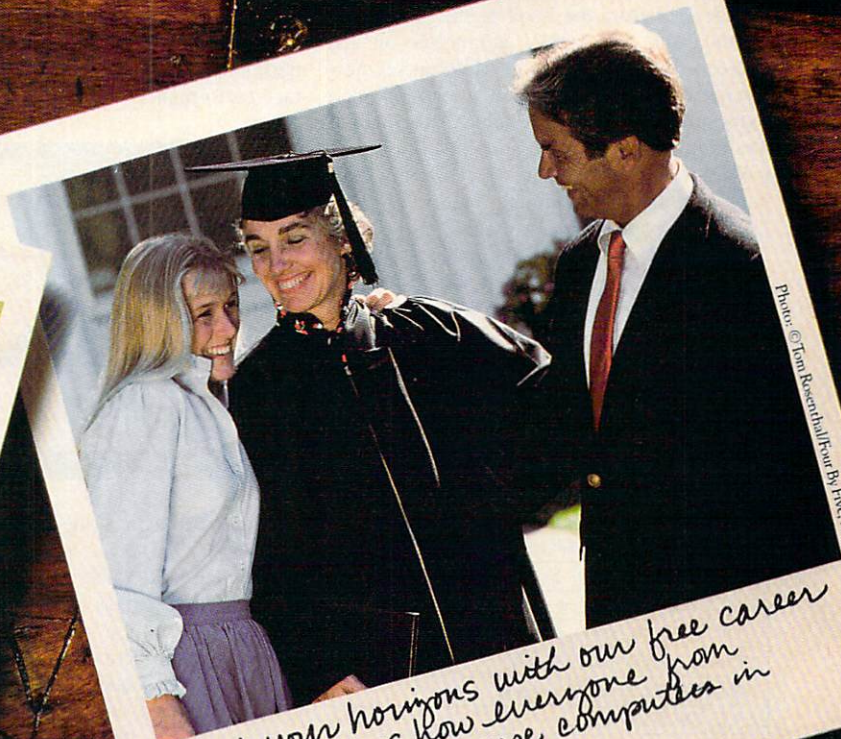


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*Expand your horizons with our free career
book that shows how everyone from
artists to zoologists use computers in
their work.*

You'll Love The Relationships That Develop.

Local Events Make Learning Convenient.

Throughout October, PTA's, universities, scout troops, museums, computer and software stores, schools, and clubs everywhere will be handing out materials and putting on special events. Maybe that's why we're the non-profit program that's endorsed by so many national organizations,* State Departments of Education and even the U.S. Senate. Learn in your group, enter a contest, pick up a free book...just clip the coupon and we'll send you everything you need to get started fast. But hurry. Because the sooner you do, the sooner you'll develop relationships of your own.

YES!! Show me how to enter a contest. Tell me how to get free materials. Send me everything I need to get started.

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children learn from reading the story, looking at the pictures, and exploring the story with the computer.

For me, the richness of this program comes not from the book or the pictures or even from the cutesy animation on the screen, but from watching children see new ways that material can be compiled in a story format and from watching their delight as they write their own stories. Printing the illustrated stories when they are finished, coloring them, and binding them with construction-paper covers makes children—from 4 to 10 years old—the masters of their fictitious universe. And so it should be.

—MARLENE BUMGARNER ELTGROTH

MackKids

SYSTEM REQUIREMENTS: Reviewed on 512KE Macintosh.

PUBLISHER: Nordic Software, 3939 North 48th Street, Lincoln, NE 68504; (402) 466-6502

PRICE: \$40

PUBLISHER'S SUGGESTED AGES: 6-12

COPY PROTECTED: No

OVERALL RATING: ★★★

DOCUMENTATION: ★★★

ERROR HANDLING: ★★★

GRAPHICS QUALITY: ★★★

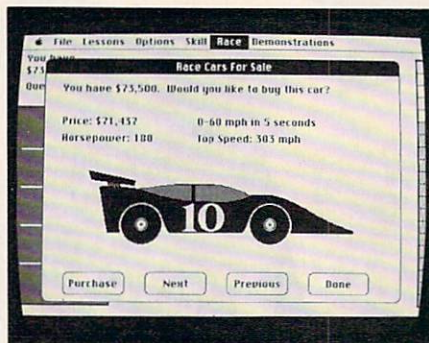
EASE OF USE: Easy

Does your 6- to 9-year old need motivation to practice arithmetic operations? If so, consider stock-car racing. In the latest *MacKids* disk, children learn and practice addition, subtraction, multiplication, and long division with *Turbo Math Facts*. As they answer questions correctly, they earn money to buy race cars. Then they can race against Turbo Tom. Two other games, *SiMac* and *Boxes*, help youngsters test their memories and develop logical thinking skills. Older siblings and parents will enjoy these programs, too.

Turbo Math provides examples and practice with the four basic arithmetic operations (addition, subtraction, multiplication, and division). A demonstration of each operation helps your child start, and explanations clearly detail each step. There are five skill levels and the option of sound effects, animation, and speed. When a math problem is answered correctly, a race car zooms across the screen. If an answer is incorrect, the same animated graphic ends in a crunch as the car noisily crashes into the screen border.

The object is for players to earn money by answering math questions correctly. When they think they have enough money they can go shopping for a race car. The more money they have, the better the race car (or cars) available for purchase. Race-

car stats, such as horsepower and maximum speed, help players select the best car to compete against Turbo Tom. When the race begins, an overhead graphic display of the race course appears as the cars zoom to the finish line. The winner is flagged in with the traditional checkered flags, and prizes for race performance include cash and trophies.



When arithmetic skills are up to par, children can try *SiMac*, a computerized version of the hand-held game of *Simon*. The game helps develop pattern recognition skills and short-term memory. Quadrants of *SiMac* light up and chime a note. Your child's task is to copy the sequence in the exact order it's played. Each time, a new note is added to the sequence, making it more difficult to copy.

Last but not least is *Boxes*. This old connect-the-dots-to-form-squares game promotes planning ahead and logical thought. Players join dots to form the sides of boxes. Whoever draws the final side claims the box. Play against the computer or with a friend, or watch two simulated opponents play on-screen.

Together, the three games can keep your kids entertained while they practice valuable math and memory skills. —GWEN SOLOMON

ENTERTAINMENT

Star Saga: One—Beyond the Boundary

SYSTEM REQUIREMENTS: Reviewed on 256K IBM PC. Also for 64K Apple.

PUBLISHER: Masterplay, 8417 Sun State St., Tampa, FL 33614; (813) 888-7773

PRICE: \$80

COPY PROTECTED: No

OVERALL RATING: ★★★

DOCUMENTATION: ★★★

PLAY SYSTEM: ★★★

GRAPHICS QUALITY: N/A

EASE OF USE: Average

Star Saga: One is the ground-breaking first episode of a planned trilogy by Masterplay, a company formed by Michael Massimilla and Andrew Greenberg, co-creator of *Wizardry*. It's a multiplayer, multimedia, role-

playing extravaganza. A peek inside the box reveals not only a computer disk, but game maps, six playing pieces, and 13 (!) game booklets. It's around these booklets that most of the game revolves.

The idea is simple: Up to six players assume the identities of different predefined characters and zoom around an arm of the galaxy looking for adventure, riches, and their own destinies. The game is designed so that the players can participate simultaneously or independently. For example, one player might be battling aliens on the computer while another is reading about aliens resembling stalks of broccoli. Two more players could be haggling over the going rate of Warp Core, while yet another player is plotting his or her next hyperspace jump. If you wish to stop at any time, you can "disable" yourself while the others forge ahead.

The mechanics of *Star Saga* are similar to "which-way" adventure books that provide a list of pages to turn to depending on your course of action. After entering each turn, you are instructed to read a specific passage to learn the results. You may be tempted to



read through the booklets, but Masterplay has written and arranged the text so that you are referred back to the computer instead of another passage, making cheating nearly impossible.

Star Saga's novel approach to text adventures allows players to be at different locations while keeping their actions a secret. An intelligent game master moderates, helping those in need and making sure no one gets too much of an edge. In this respect, *Star Saga* is light-years ahead of the "which-way" adventures.

The major drawback to the game is that the more people you have, the longer it takes to play. It took me 13 hours to complete the game playing solo. I would multiply this figure by the number of players to approximate overall game time. However, most text adventurers and role-playing enthusiasts will find the time well spent.

If *Star Saga: One* is this good, what will *Two* and *Three* be like? —JEFF DONAHUE

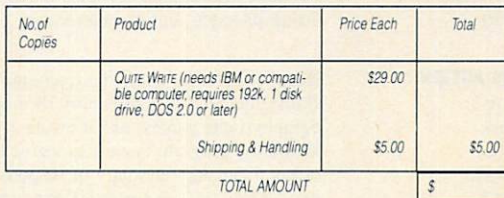
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CIRCLE READER SERVICE 28

Crystal Quest (Version 2.2)

SYSTEM REQUIREMENTS: Reviewed on 512KE Macintosh and Mac II. Color monitor recommended.

PUBLISHER: Greene Inc., 15 Via Chualar, Monterey, CA 93940; (408) 375-0910

PRICE: \$50

COPY PROTECTED: No

OVERALL RATING: ★★★★★

DOCUMENTATION: ★★★★★

PLAY SYSTEM: ★★★★★

GRAPHICS QUALITY: ★★★★★

EASE OF USE: Easy

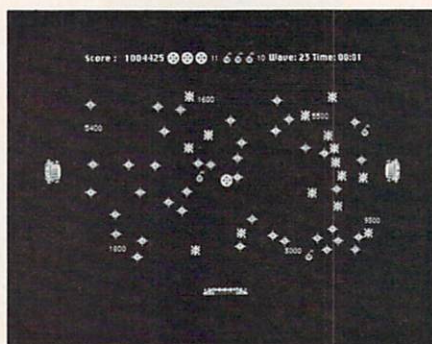
Many shareware games are entertaining, but fail to hold your attention for more than a few hours. This was true of *Crystal Raider*, written by Patrick Buckland more than three years ago. Since then, it's been thoroughly rewritten and released commercially as *Crystal Quest*.

Reminiscent of the arcade classic *Robotron*, *Crystal Quest* is a loud, fast-paced game in which you collect all of the crystals on the screen in order to advance to the next wave or level of play. There are 12 different

types of "nasties" that attempt to stop you by firing bullets, laser beams and bouncing bombs in your path.

To help you survive the onslaught of monsters and randomly placed mines (which always seem to be in your way), you are equipped with an endless supply of bullets and a few smart bombs. The bombs destroy all nasties and are necessary to succeed at higher levels of play where the screen is literally crawling with monsters.

Crystal Quest's brilliant use of the color



graphics available on the Mac II is impressive enough to tempt many into purchasing the machine. Unfortunately, the black-and-white graphics on the 512K Macs are the standard fare to which Mac owners have become accustomed. The frequent use of 26 innovative digitized sounds adds to *Crystal Quest's* game play, regardless of which machine you are using.

If you find *Crystal Quest 2.2* too fast or if you don't like a particular sound (such as the "moan" when you complete each level), you can edit these and almost every other aspect of the game with the *CritterEditor* (Greene Inc.; \$30). The *CritterEditor* makes an already great game even better by allowing you to alter the speed, image, aggressiveness, and point value of each monster. Besides changing the nasties, you can create your own bonus system as well as define the number of crystals and mines on each level.

Unlike previous versions of *Crystal Quest*, version 2.2 displays the exact number of lives, ships, and smart bombs remaining at all times. Another improvement is

CAPSULE REVIEWS

EDUCATION/CREATIVITY

TITLE/PUBLISHER PRICE	SUMMARY	SYSTEM REQUIREMENTS	RATINGS					
			CP	O	D	EH	GQ	EU
ACE EXPLORER Mindplay 100 Conifer Hill Drive Building 3, Suite #301 Danvers, MA 01923 (617) 774-1760 \$50	A new invention on planet ABC, a garbage problem on Solar 12, and people with small noses on planet Beta are just some of the science-fiction scenarios that motivate children, ages 7 to 13, to find facts and put them in order. They can even create their own stories for friends to try and print pictures of the zany aliens. —GWEN SOLOMON	48K Apple.	Y	★	★	★	★	E
AKM MUSIC SHOP AKM Diversified P.O. Box 1851 Carson City, NV 89702 (702) 267-2424 \$50	A learning tool for the beginning guitarist that helps with learning basic music theory, guitar fundamentals, and 25 simple songs. A pitch pipe would work better than the guitar-tuning section, and diagrams in the manual depict a left-handed guitarist. Ages 8 and above. —JEFF DONAHUE	128K IBM PC. Color graphics.	N	★	★	★	★	A
REBUS WRITER Mindscape Inc. 3444 Dundee Road Northbrook, IL 60062 (312) 480-7667 \$50	Look at the relationships between words and sounds in a new, creative way as you guess the answers to rebus puzzles and create your own. Includes 335 puzzles at five different skill levels and a picture dictionary for creating more. Fun for ages 8 and above. —GWEN SOLOMON	64K Apple. Joystick or mouse optional. Color monitor recommended.	Y	★	★	★	★	E
READ 'N ROLL Davidson & Associates 3135 Kashiwa St. Torrance, CA 90505 (213) 534-4070 \$50	Children in grades three to six are motivated to practice reading comprehension skills. They find the main idea, recall facts, identify sequences, draw inferences, and define words in context. Includes interesting passages and an entertaining bowling game. —GWEN SOLOMON	Reviewed on 128K Apple. Also for 256K IBM PC. 80-column card (Apple IIe). Mouse and printer optional.	Y	★	★	★	★	E
WORLD ATLAS ACTION DLM Software One DLM Park P.O. Box 4000 Allen, TX 75002 (800) 527-4747 \$46	Helps children practice their geography and map skills. Included is a choice of 18 map games, six geography-facts games, and a create-a-game feature. While the program is easy to learn, easy to use, and offers a detailed summary of responses, it's really just a basic drill-and-practice exercise. For grades five and above. —GWEN SOLOMON	64K Apple.	Y	★	★	★	★	E

Ratings Key: O Overall Performance; D Documentation; EH Error Handling; EU Ease of Use; GQ Graphics Quality; P Poor; A Average; ★★ Good; ★★★ Very Good; ★★★★★ Excellent; N/A Not Applicable; E Easy; A Average; D Difficult; CP Copy protected, yes or no

that it allows you to save games in progress. Even without these much-needed changes, the various monsters, ease of learning, and addictiveness of play make *Crystal Quest* one of the best arcade games for any Macintosh computer.

—JIM PHELAN

Wasteland

SYSTEM REQUIREMENTS: Reviewed on 64K Apple. Also for C 64/128.

PUBLISHER: Electronic Arts, P.O. Box 7577, San Mateo, CA 94403; (415) 571-7171

PRICE: \$40-\$50

COPY PROTECTED: Yes

OVERALL RATING: ★★★★★

DOCUMENTATION: ★★★★★

PLAY SYSTEM: ★★★★★

GRAPHICS QUALITY: ★★★★★

EASE OF USE: Easy

Taking place in the southwestern United States many years after a nuclear war, *Wasteland* puts you in the boots of a group of Desert Rangers, a surviving branch of the U.S. military. Your four characters are to

investigate a series of disturbances in the region, finding the root of the problem and taking the appropriate action. Along the way, you'll be able to recruit allies to join you. However, they have minds of their own and will not obey your every order. You are limited to three such friends, which makes the selection process difficult.

The game is viewed through a bird's-eye perspective except during combat when a map is replaced by an animated picture of your opponent and a list of options from



which your characters choose. However, you can still move characters around on the map during battle, either as a group or as individuals sent in different directions.

What's most appealing about *Wasteland* is its endless variety. The weapons range from knives to laser carbines, the monsters from killer opossums to a variety of mechanical horrors, and you learn bureaucratic, brawling, and toaster-repair skills. There are so many things for the player to do, it's hard to know where to begin. More important, there are no wrong choices; you can start anywhere and still arrive at a successful conclusion. It is difficult to get stuck in *Wasteland* because there are always other avenues to explore if you can't move past a particular obstacle. Also noteworthy is the option of splitting your party at any time (not only during combat) and to send members to different locations.

Combining the best features of *Ultima*, *The Bard's Tale*, and *Wizard's Crown* with many new ideas, this role-playing adventure is dynamic and playable; it's the best I've ever seen.

—DAVID LANGENDOEN

CAPSULE REVIEWS

ENTERTAINMENT

TITLE/PUBLISHER PRICE	SUMMARY	SYSTEM REQUIREMENTS	CP	O	D	PS	GQ	EU
DREAM ZONE Baudville 5380 52nd St. S.E. Grand Rapids, MI 49508 (616) 698-0888 \$50	The digitized color graphics, animation, and catchy music of <i>Dream Zone</i> make it stand out from other adventures. The plot line is solid and manages to convey the feeling of a dream through the use of unusual problems and bizarre creatures.	512K Apple IIGs.	Y	★	★	★	★	A
—DAVID LANGENDOEN								
HARRIER COMBAT SIMULATOR Mindscape Inc. 3444 Dundee Road Northbrook, IL 60062 (312) 480-7667 \$30-\$50	The unique flying characteristics of the Harrier Jump Jet give this game an interesting twist over past simulators. Unfortunately, the low quality graphics and sound interfere with the plane's special abilities.	512K Amiga, 512K Atari ST, C 64/128, 512K IBM PC with CGA. Joystick recommended.	Y	★	★	★	★	A
—STEVE WILLIAMS								
LUNAR RESCUE PCAI 1305 Jefferson Highway Champlin, MN 55316 (612) 427-6540 \$60	An attempt to improve the lunar-lander games of years past. A heroic mission and the ability to trade goods add little to this seemingly endless arcade game. Despite excellent graphics and smooth ship control, appeal will be limited.	512KE Macintosh.	Y	★	★	★	★	E
—JIM PHELAN								
PANZER STRIKE! Strategic Simulations 1046 N. Rengstorff Ave. Mountain View, CA 94043 (415) 964-1353 \$45-\$50	Sophisticated World War II strategy and tactics game with built-in construction set. Numerous scenarios involving units of various size cover the Eastern Front, Western Front, and North African campaign. Super play system, excellent construction-set option, and full campaign games available.	Reviewed on 64K Apple. Also for C 64/128.	Y	★	★	★	★	D
—JAMES DELSON								
POLICE QUEST Sierra On-Line P.O. Box 485 Coarsegold, CA 93614 (209) 683-4468 \$50	A realistic glimpse into the thoughts, excitement, and tedium of police work. You lead a police officer as he builds his case against a big-time drug dealer. The game has a large vocabulary and is geared toward novice adventurers, but contains enough plot twists to keep more advanced players glued to their screens.	Reviewed on 256K IBM PC with CGA. Also for 512K Apple IIGs, 512K Atari ST. Joystick optional.	N	★	★	★	★	A
—STEVE WILLIAMS								

Ratings Key: O Overall Performance; D Documentation; PS Play System; EU Ease of Use; GQ Graphics Quality; ★ Poor; ★★ Average; ★★★ Good; ★★★★ Very Good; ★★★★★ Excellent; N/A Not Applicable; E Easy; A Average; D Difficult; CP Copy protected, yes or no

Entertainment News and Hints

The Latest Scoop on Popular Games

BY JIM PHELAN

★ Movie tie-ins (remember *Aliens*, and *Star Trek*?) continue to be a popular software genre with the releases of **Platoon** (512K Atari ST, C 64/128, 256K IBM PC; \$30-\$45) and **Willow: The Computer Game** (512K IBM PC; \$40). DataEast's version of the Vietnam experience belongs to the new wave of computer games that "do not have a winner." Your goal is to survive six dangerous missions while keeping your sanity and morale intact. I'd say that qualifies as winning! Mindscape's *Willow: The Computer Game* closely follows the story line of *Willow*, the motion picture, but has a game reset option,



Good triumphs over evil in the computer version of George Lucas's *Willow*.

which creates new maps, scenes, and spells for those of us who've seen the adventure-fantasy film.

★ A word on those annoying translation wheels—a form of *copy protection* which adds nothing to a game. If there weren't so many software pirates among us, there would not be a need for such devices. A form of copy protection I prefer more than the translation wheel is the "security check," which asks what word appears on the *n*th line of paragraph *x* on page *y* of the manual. If this question is answered incorrectly, the user is unable to run the program. This is far from foolproof, but it does not detract from the game. These security checks are employed by two of Omnitrend's most recent releases: **Breach** (512K Amiga, 512K Atari ST, 320K IBM PC, 512K Macintosh; \$40), a combat role-playing game set in the future; and **Paladin** (same machines and price), a fantasy role-playing game that takes place in the magical past. Both games come with many scenarios (*Breach* has 9, *Paladin*, 10) and a construction set to create your own. An additional 16 scenarios can be purchased for either game for \$25. You can

also download scenarios from various bulletin boards and on-line information services if you have access to a modem.

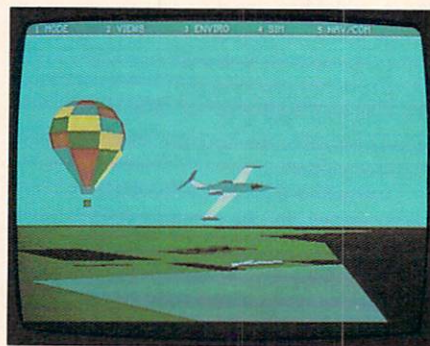
★ The market seems to be flooded with flight simulators, yet others are on the way. **Starglider II** should now be available for the 512K Amiga and 512K Atari ST (\$50), and an IBM PC version (\$40) will be out before the end of the year. **Rainbird**'s sequel to its 1986 release is billed as a "Starglider with strategy and adventure." Owners of the original *Starglider* will be offered a \$10 rebate when they buy *Starglider II*. . . . And **Microsoft Flight Simulator Version 3.0** (\$50) for the 256K IBM PC is now on the shelves. The top-selling flight simulator has so many improvements, that it seems like a new program altogether. In addition to better graphics, hard-disk compatibility, and a learning mode, a Lear Jet and Crop Duster have joined the squadron. The ability to view multiple windows simultaneously will help you keep track of a flying partner, linked via modem! Maybe there is room for a few more flight simulators after all.

★ If you're in the mood to save humankind, you have two **Strategic Simulations** releases from which to choose. **Doug Wood**, author of the *Phantasia* trilogy, has designed **Star Command** (256K IBM PC; \$50), a space role-playing adventure set in the far-away future. You control a group of eight characters who go on dangerous missions throughout the galaxy. After glancing at the program, it looks as though *Star Command* is just as good as (if not better than) Doug Wood's previous creations! **Questron II** (512K Amiga, 64K Apple, 512K Apple IIcs, 512K Atari ST, C 64/128, 256K IBM PC; \$40-\$50) begins where *Questron* left off. Now you possess



Just one of the intergalactic pirates from Doug Wood's *Star Command*.

the *Evil Book of Magic*, but it cannot be destroyed. So you must travel back in time to Lander to prevent the book's creation. One begins to wonder what the plot line for *Questron III* will be.



Out for a Sunday flight with Microsoft Flight Simulator Version 3.0.

★ On the lighter side are two games with out-of-this-world story lines. In **Zak McKracken and the Alien Mindbenders** (128K Apple, C 64/128, 256K IBM PC; \$35-\$45), you take on the persona of a trashy tabloid reporter who uncovers a plot by extraterrestrials to unleash a stupidity epidemic on Earth. **Shufflepuck Cafe** (512K Macintosh; \$40) is an air-hockey simulation. Not ice hockey, air hockey! **Broderbund**'s latest pits you against nine different aliens in a seedy saloon in the 25th Century. These two originals (however farfetched) are for gamers who've done it all.

GAME HINTS

BEYOND ZORK (Infocom). The object of this text adventure is to retrieve the lost Coconut of Quendor, which is hidden somewhere in the Great Underground Empire. You must slay a few monsters and solve many puzzles before your quest is completed. (512K Amiga, 128K Apple, 512K Atari ST, C 128, 192K IBM PC, 512K Macintosh)

★ If you can't leave the cellar, look at the amulet through the wine bottle.

★ To get the Minx, destroy the tracks in the snow and wait for the Hunter to leave.

★ The answer to the question inscribed on the boulder in the forest is "youth."

★ Hide behind the bush until the Queen Platypus leaves.

★ To get the reliquary, point the dispel stick at the dome, run back to Thriff, return to the lava, and inscribe a glyph in the lava with the burin from the mailbox. (Make sure that you are wearing the ring of shielding.)

★ Put the two hemispheres together and then look into the sphere to go underground.

—CHRIS BROWN

Gibbsboro, New Jersey

THE FAERY TALE ADVENTURE (MicroIllusions). You are one of three brothers on a large island in search of tools needed to defeat the evil Necromancer. You'll take on your foes with the help of your trusty sword, or dirk, and magic talismans, but your most difficult challenge comes when you must travel the astral plane to battle your arch enemy. (512K Amiga, C 64/128, 256K IBM PC. Available soon for 512K Apple II/II+, 1MB Macintosh II.)

★ The seashell found in the watch tower can be used to call a creature from the sea.

★ Take Hemsath's bones to the graveyard late at night.

★ The evil Witch is in the northern part of Grimwood.

★ The magic wand is the only weapon that can hurt the Necromancer. You'll find the wand in the Dragon's cave in the Northwest Holm.

★ The Sorceress will give you luck.

★ Take the lasso to Swan Isle and pick up a ride.

★ The Citadel of Doom is found in the south end of the Plain of Grief.

★ Before you use a bird totem, save the game. Then use the totem and reload. This way you'll never run out of them.

★ There are secret doors on the east side of most castles.

—PETE GAGE

Spokane, Washington

CONVERSIONS

Apollo 18 (Accolade). Now available for 256K IBM PC. Already out for C 64/128. Reviewed in May 1988 issue.

Chuck Yeager's Advanced Flight Trainer (Electronic Arts). Now available for the 512K Macintosh. Already out for 64K Apple, C 64/128, 256K IBM PC. Reviewed in November 1987 issue.

Mini-Putt (Accolade). Now available for 512K Apple II/II+, 256K IBM PC. Already out for C 64/128. Reviewed in June 1988 issue.

Moebius (Origin Systems). Now available for 512K Macintosh. Already out for 512K Amiga, 64K Apple, 512K Atari ST, C 64/128, 256K IBM PC. Reviewed in May 1986 issue.

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Don't miss the opportunity to share your original game hints and tips with other readers. Submit entries to Entertainment Editor, HOME-OFFICE COMPUTING, 730 Broadway, New York, NY 10003. Include your name, address, telephone number, a short description of the game, and the brand and model of computer you own. If your tips are selected for publication, we'll award you a new game for your computer. We reserve the right to edit submissions for accuracy, clarity, and length. Unfortunately, we won't be able to acknowledge each submission.

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How I Became Invisible

Or, Why I Work Where I Do

BY NICK SULLIVAN



When I was a kid, I wanted to become a train engineer, a chauffeur, or a baseball player. I'd do anything to stay out of a factory or an office. I wasn't too happy sitting in school all day and didn't look forward to a regimented life.

By the time I graduated from college, my career goals weren't much better defined, but I had added two more parameters to the job search: I wanted a certain amount of independence (room to move), and I wanted to produce tangible goods. I dabbled in house painting, but studied more seriously the life of the fisherman.

Never mind that the fisherman's work is rough and dangerous and without security, or that the trade is so undervalued by the outside world that "fisherman" ranked second-to-last in the 1988 Job Almanac Survey.

Focus on the positive. The fisherman has no boss and no rush-hour commute. The fisherman belongs to no union and has little or nothing to do with the federal government. The fisherman goes out in his boat, throws his nets, and brings his catch to an old-fashioned marketplace still governed strictly by supply and demand. The fisherman enjoys independence of a sort rarely seen in this country. Despite the trade's low rating, fishermen rank their job number one.

With the fisherman as a model, I could better articulate my search, at least to myself. The way of working was just as important as the work itself. Fishing was not right for me—that was clear after a few days of hanging around the wharves of Cape Cod and Boston. It just wasn't in my blood. But I thought I could chase fires for a newspaper—that might get me out of the office. So I started teaching myself how to write.

Still, at age 27, my life plan was formless—a sail without wind. Then I read *The Letters of E.B. White*. I learned that White, the revered essayist and author of *Charlotte's Web*, had arranged with his New York employer, *The New Yorker* magazine, to live in Maine and send his work in by post. Now here was a plan cut taut as a jib.

It might have been more sensible to adopt

White's writing style, but it was his *workstyle* I was after. Producing goods in the country and selling them in the city—that's the way I thought the world worked when growing up in a small (pop. 5,000) Rhode Island town.

I carried this city-country plan around in my head for years, biding my time, unable even to articulate it to my wife, who kept asking for a . . . Plan. Meanwhile, I moved along from magazine to magazine (*Argosy*, *Cars*, *Camera 35*, *Ad Forum*, and finally to this magazine, for its launch as *Family*



**"Now I work
in my barn office,
up in the
old hayloft near
the peak
where the bats
used to live."**

Computing), when suddenly the skies opened—and God made modems! Bless my stars! A tool perfectly designed for the task at hand—and it was available to the public.

I immediately went to work. I actually read books on communications, which is like sending your mind to boot camp. I bugged Lance Paavola, this magazine's technical director, hoping that his knowledge would transfer to me through osmosis. Some did, but I still spent several annoying months trying to receive files from a West Coast correspondent, a process much less efficient than White's post.

I finally decided: Everyone's trying to make communications difficult, when in fact it's quite simple. After that, I was fine. The sail was hoisted, waiting for wind.

The breeze built slowly. My wife and I bought an old cow barn in rural Massachusetts and began converting it to a living space. Why a barn, don't ask, and why four hours from my job, don't ask. And how did I convince my boss, the editor of this magazine, to let me work in another state? I didn't have to. She knew that offices made me claustrophobic. She liked to see technology put to work and was convinced that computers should give people choices.

So now I work in my barn (a.k.a. home) office, up in the old hayloft near the peak where the bats used to live. Every two or three weeks, I journey to New York City and the central office. The two things I like best about New York are entering it and leaving it, and now these sensations are built into my life.

After three years as a remote telecommuter, I don't think about the arrangement much, except when I'm taking a four-hour train trip or have to ask people at the office to find a missing piece of paper or download a 20-page file.

Drew Hires, the magazine's design associate, calls me the "invisible editor." The more transparent the operation, the better. I'm totally dependent on modem, fax, telephone, and Federal Express communications. Stories, ideas, and memos come in one way—get blended, chopped, grated, and sometimes pureed in my computer—and go back another. The crossruff should play out so that people's normal work patterns are not disrupted and outsiders don't know or care where I am. The onus is on me to make it work, but that's another story.

This story is about an itch that was scratched. I'm not as independent as my model fisherman, but I'm sure he's not as independent as I imagined. An office is an office, whether it's in a building, a boat, or a barn. After the furniture is arranged and the tools oiled, you focus again on the work. The fisherman and E.B. White and others whose workstyles I've admired were just raw models, not meant to be copied. Everyone has his or her own style and idea of how life should be lived. All I've done is follow my nose—which happens to be crooked. ■

NICK SULLIVAN is a senior editor of HOME-OFFICE COMPUTING and project editor of this special anniversary issue, much of which came to life at his home office.

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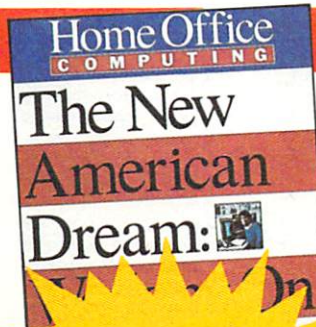
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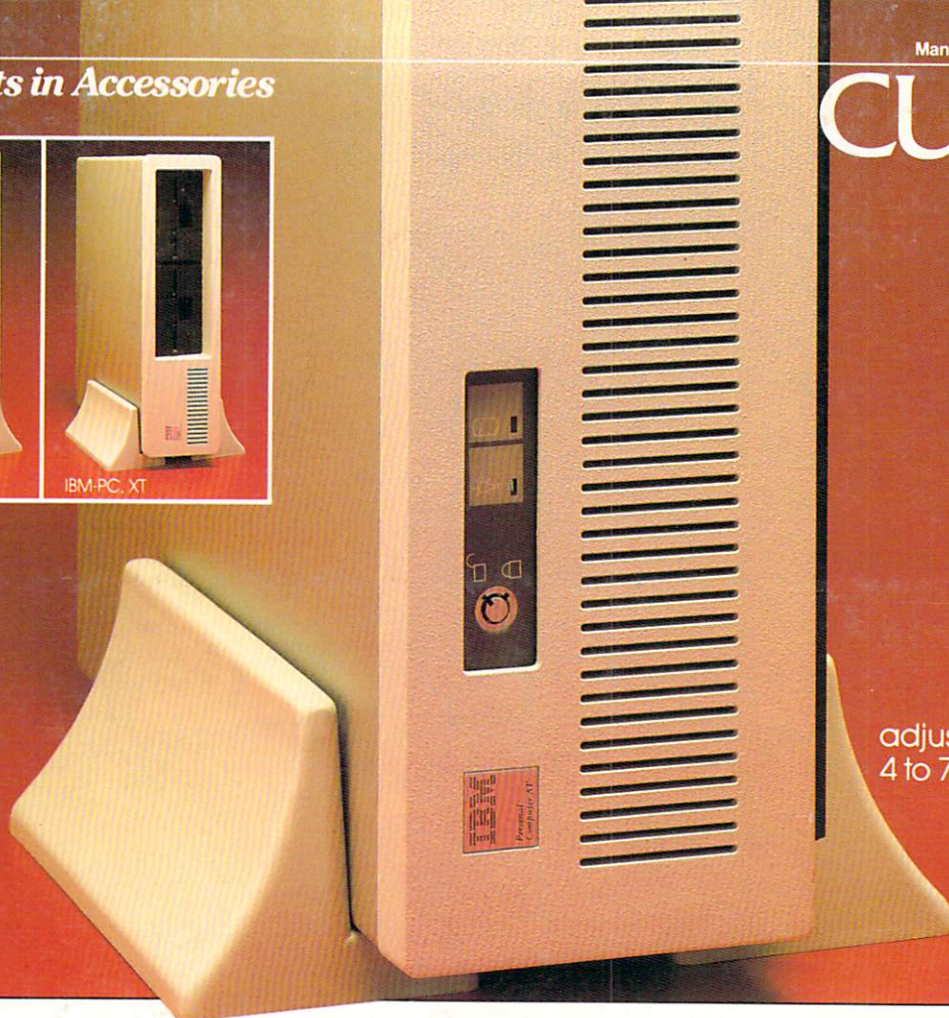
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